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A CHRONOLOGY OF THE HISTORICAL EARTHQUAKES IN THE
MIDDLE EAST

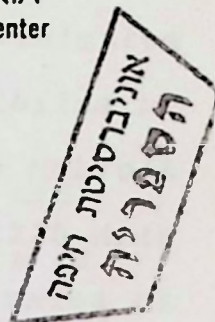
translated and prepared by UNIVERSITY OF CALIFORNIA
Earthquake Engineering Research Center

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Based on a detailed translation of the material of the Lahore
copy of a XV century Arabic treatise on earthquakes

entitled

KASHF AL-SALSALAH AN WASF AL-ZALZALAH

written by

Jalal-Al-Din Suyuti (1445-1506)

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1. INTRODUCTION

Knowledge of the past history of earthquake activities and the determination of historical information about the time of occurrence, location, and characteristics of past earthquakes in a region are necessary for the correct estimation of the seismicity of that region. These historical data are useful in building and verifying any statistical model for the prediction of the return period and the frequency of earthquakes with different magnitudes. These data are of important value in seismic regionalization, seismic risk evaluation, and determination of the optimum aseismic design of structures in any region. Instrumental and detailed macroseismic data on seismic activities of various regions especially in the Middle East has been available only since the beginning of this century. Any prediction of future seismicity of a region on the basis of the available data of this century is risky, because it may overlook the long period tectonic activities of which their periodicity can not be determined by short duration observations. Ambrassey (1968, 1971) has discussed the importance of historical data and has shown that for certain regions there have been relatively quiet periods of a few hundred years, followed by a highly active seismic period of another few hundred years. He has then concluded that any seismic regionalization should be conducted with proper attention to the long duration seismic history of the area.

The present report is a detailed translation of a lithograph copy printed in Lahore in 1892 (from here on it will be called the Lahore copy) of an earthquake catalogue written in

Arabic at the end of the 15th century by a well known Egyptian writer named Suyuti. He has collected all the traditions, religious ideas, and theories about earthquakes plus a comprehensive chronology of the earthquakes which have occurred between 570 A.D. to 1500 A.D. in the present region of the Middle East. A short biography of the author is as follows:

1.1 - Suyuti the Author

A detailed biography of the author and description of his works are given in the Encyclopedia of Islam. The following is a short biography of Suyuti based on the material of this source.

Djalal al-Din al-Suyuti (Abd al-Rahman ibn Abi-Bakr), the most prolific Egyptian writer during the Mamluk period and perhaps in Arabic literature, came from a Persian family who were formerly living in Baghdad. Suyuti was born on 1 Rajab 849 A.H. (Oct. 3, 1445 A.D.) in Cairo where his father was a religious teacher. He began his studies in 864 A.H. (1460 A.D.) and concluded them on a journey through the cities in Egypt and on a pilgrimage to Mecca in 869 A.H. (1463 A.D.). Returning to Cairo, he first set up business as a consultant on legal problems, and in 872 A.H. (1467 A.D.) he received the professorship position held formerly by his father. He then was moved to a more important position. In Rajab, 906 A.H. (Feb. 1501 A.D.) he retired to al-Rawda on the Nile island, where he died on 18 Jamada al Awla, 911 A.H. (Oct. 17, 1505 A.D.).

Suyuti's literary activity, which he had begun at the age of 17 was distinguished by an unusual versatility. The very long list of his writings compiled by Flugel in the Wiener

Fahra, 1832, Vols. 58-60, lists 561 works, but it includes numerous short treatises in addition to substantial works. Suyuti's ambition was to try his skill in all branches of Moslem learning and he did make a number of compilations which are now of great value to us, which compensates for lost works of a classical literature as well as collections of material. In addition to many of his fine works in literature, grammar, religion, biography, philology, etc., he has three books in the field of history; a general world history, a history of the Caliphs, and a history of Egypt. Apparently he was motivated to write his collection on earthquakes due to the frequent occurrence of earthquakes in Egypt during his life time.

1.2 - Suyuti's Earthquake Catalogue

Copies of Suyuti's collections on earthquakes in the form of manuscripts or lithographic prints have been found in many libraries. (1) The first abridged translation of this catalogue into the English language was done by A. Sprenger (1843) from an Arabic manuscript of the Bibliotheque Nationale de Paris (2) and was published in the Journal of the Asiatic Society of Bengal. Suyuti's catalogue and its translation was again brought to the attention of the seismologist and engineers by Willis (1928) after the passing of almost one century. Willis used the information given in Sprenger's translation of Suyuti's

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1. Brockelmann (1902), p. 147, item 42; and Brockelmann (1938), p. 183, item 42.
 2. Fonds Asselin, Nr. 218 (This number seems to have changed. According to Brockelmann the Paris copies are now Nr. 4658 and 4659).

work in his earthquake catalogue. The dates of Sprenger's translation were the original dates of Suyuti which were based on the Moslem lunar calendar of Hihhri (A.H.). Unfortunately, Willis thought that the dates were in the Christian calendar (A.D.) and mixed Suyuti's Hijjri catalogue with the other works using Christian dates. His work was used by Seiberg and others in their earthquake catalogues and led to many errors. Ambrassey (1962) pointed out the errors of the Willis catalogue and gave the corrected dates. Ambrassey (1961) also published a condensed translation of Suyuti's catalogue based on the manuscript available at the British Museum (Or.5872).

The description of the Lahore copy of Suyuti's work whose translation is given in this report is as follows:

1.3 - Description of the Text (Lahore Copy)

The title of the Arabic text is "Kashf al-Salsalah an Wasf al-Zalزالah" meaning 'discovering the mysteries from the description of the earthquake' which is a collection of traditions relating to earthquakes. The text is in two parts. The first part is the photocopy of pages 11 to 16 of a lithograph copy of a lithograph copy of a 32 page book entitled "A Collection of Nine Tracts by Suyuti". This book was published in Lahore, India around 1890; a copy of it is in the library of the British Museum under the title 14521.C.36.(1.). The second part is the photocopy of pages 22 to 41 of another lithograph copy of a 56 page book entitled "A Collection of Ten Tracts by Suyuti". This book seems to be an expanded edition of the preceding collection with an additional tract. It was published

in Lahore in 1892. A copy of it is in the library of the British Museum under the title 14521.0.37.

The material of the first book deals only with the religious aspect of the earthquake. This portion is completely repeated in the second book work for work; therefore, only the material of the second book was translated. The material dealing with earthquakes in the second book can be subdivided into four sections. The first section deals with the discussion of earthquake phenomena and the causes of their occurrence. It contains the collection of all the Islamic fables and stories related to the causes of earthquakes where increased sinning and usury are blamed as the main causes. Another old theory relates the occurrence of the earthquake to an increase in the pressure and the escape of vapor from within the earth. This theory together with the description of the mechanism of the earthquake movement from a religious point of view has also been described in the text.

The second section of Suyuti's article deals with the religious duties of a Moslem during and after the occurrence of an earthquake. In this section detailed instructions about special earthquake prayers that any faithful Moslem must perform after an earthquake and the charities which should be paid to the poor and needy after the earthquake, etc., are described.

The third section deals with the descriptions of the historical earthquakes before the appearance of Islam. Most of the material of this portion is based on Biblical stories and the stories described in the Quran. Some definite histor-

ical data about ancient earthquakes may be obtained from the material of this section.

The fourth section of the text deals with the chronology of the important historical earthquakes which have occurred in the present region of the Middle East (Egypt, Saudi Arabia, Jordan, Israel, Syria, Lebanon, Cyprus, Turkey, Iraq, Iran, Armenia, and Afghanistan) after the appearance of Islam up to the year 654 A.H. (1256 A.D.). This section is relatively detailed and is of important scientific and engineering value.

1.4 - The Report

In this report, for the sake of brevity, the translation of sections 1 and 2 dealing with religious and literary aspects of the earthquakes is not included. The material of these two sections may have some value from the theological and philological point of view, however, at present it seems that they do not have much scientific and engineering usefulness.

Also, in this report only a brief summary of section 3 which deals mostly with Biblical type stories about the early pre-Islamic earthquakes is given. It is felt also that detailed descriptions of these events will not have much scientific and engineering usefulness. A complete translation of section 4 which deals with historical earthquakes in the Middle East after Islam is given. Additional historical material or other detailed information obtained from the references given in the text or from other historical Arabic or Persian books, available at the library of the University of California at Berkeley, are also included in this report.

No earthquake between the years 203 A.H. (817 A.D.) and 444 A.H. (1052 A.D.) is reported in the text. While Suyuti died in 911 A.H. (1506 A.D.), the catalogue given in the Lahore text covers only as far as the year 654 A.H. (1256 A.D.). In order to make this report complete and self contained the list and the summary description of the earthquakes between these dates are taken from the works of Sprenger (1843) and Ambrasseys (1961), and added to this report as Appendix I. A few additional historical earthquakes found by the translator between these dates in other sources are also included in this appendix.

Since many of the names of regions and cities in the Middle East have changed during the past centuries, therefore, at the end of this report in Appendix II the locations and descriptions of the regions during the period of occurrence of these earthquakes is given. This appendix is based on the geographical work of the Persian and Arab geographers of that time. In addition, for most cities the present coordinates are shown. The dates given in the text were all based on the Moslem calendar. The equivalent of these dates in the Christian calendar is also given.

In his catalogue Suyuti refers to many original sources which had been available to him at that time. Fortunately, many of these sources are presently available in libraries all over the world. Many of these sources which were available at the library of the University of California at Berkeley were consulted by the translator. It seems that Suyuti often had transcribed and in some cases had summarized the information

given by the original sources. In any case wherever any additional information was obtained in the original sources it is included in this report.

The translator's goal has been to augment the information given in the text wherever possible by additional information obtained from the references or other sources about these earthquakes. The objective is to make the description of these earthquakes as comprehensive as possible, such that the description of each earthquake can be counted as a short engineering and seismological report on that earthquake. For this reason wherever data was available, the names of the references, the exact time of the occurrence of the earthquake and its aftershock sequences, the description of the damage, the effect of the earthquake on land and water, and the condition of the people are indicated.

II. Earthquakes Before the Birth of the Prophet Mohammad

The manuscript contains references to many earthquakes which have occurred before the birth of the prophet Mohammad. These references are mostly based on old religious stories; no definite time of occurrence or location is given for most of these earthquakes. As detailed translations of these stories are not necessary for our objective, therefore, in this article only a brief summary of these stories is given.

The first earthquake that happened in the world was right after the time when Cain killed Abel. According to some religious stories the earth shook for 70 days.

When the prophet Abraham laid his son Isaac down on the stone on a mountain to sacrifice him for God, the color of the sky changed, the land ruptured, and there was an earthquake in the mountains.

In the Quran there are stories about the earthquake which destroyed the town of Madian ⁽¹⁾ in the North part of Hozaz. This town belonged to the tribe of the prophet Shoeib. Against the repeated advice of Shoeib, his people continued their sinning and disobedience to God; then during one of the nights a powerful noise was heard and an earthquake occurred destroying the entire town, such that by morning everybody was dead in his house except those who listened to Shoeib and left the town the day before.

Moses selected seventy men from his Israeli tribe to go to the mountain and hear God. When they reached the mountain they told Moses that they would be satisfied if only they could

1. For the location of the cities see Appendix II

see God. Their demand was not accepted by God and a very strong earthquake occurred which destroyed all of them except Moses. According to some references they were destroyed by an earthquake because they had worshiped the golden calf earlier, and also they asked Moses to ask God to give them something which had not been given to the people in the past nor would be given to the people in the future.

There is a description about the earthquakes which had occurred in Sham after the time of Jesus Christ. According to Abu-Sophian (the father of Muawiyah, the founder and the first Ommeyyades Khalif, who was alive during the time of the prophet Mohammad, R.)⁽¹⁾ in one of his commercial travels from Mecca to Sham, he and one of his companions visited a monk. The monk said that a prophet is going to rise very soon; the symptom of it was that Sham had been shaken by earthquakes eighty times after the time of Jesus Christ, and only one more earthquake was left to occur before trouble and misery came to Sham. Abu-Sophian then has said that when they arrived near the mountain pass of Thaniah (it appears to be a location near Damascus, also, a location near Mecca, R.) they met a man riding on a horse. They asked him where he was coming from. He said he was coming from Sham. They asked him what the news was up there. He replied that an earthquake occurred in Sham which would bring trouble and misery to that land.

There is also a story that during the attack of the Abyssinian army under the command of Abraha on Mecca, an earthquake occurred there. (The Abyssinian army came from the South of

Arabia around Yemen, and attacked the city of Mecca with war elephants in 570 A.D. (the year the prophet Mohammad was born, also known as the year of the elephant). They wanted to destroy the city of Mecca and the Holy Shrine of Kaaba which was their rival commercial and spiritual center. According to the stories, when these warriors arrived near Mecca, a very strong wind blew on them and suddenly the sky became very dark, then a very strong earthquake occurred such that the riders fell down from their horses and elephants. After that large numbers of swallows appeared in the sky each carrying three stones, one in their bills and the other two in their claws. The birds dropped these stones on the attackers and destroyed all of them. According to modern historians they were destroyed partly by an epidemic and partly by a terrible storm of rain and hail that swept over the valley where they were encamped, R. (2)

2. R. represents the translator's comments.

III. EARTHQUAKES AFTER THE BIRTH OF THE PROPHET MOHAMMAD

In the night that the prophet Mohammad was born, on 29 Aug. 570 A.D., there were earthquakes in Mecca with such an intensity, that in the shrine of Zaaba all the idols fell down from their pedestals. This earthquake continued for three days and nights. Also, at the same time there was an earthquake at Eivan of Zusra in the city of Madain (Eivan of Kasra is the famous palace of the capital of the Sassanid dynasty of Persia at Ctesiphon, R.), which struck with such an intensity that the great arch of that palace cracked and fourteen of its ornamental towers and battlements fell down. (According to Moslem religious stories there used to be a lake near the present city of Savah in Iran which, also at that time, disappeared, R.)

(3)

7 to 11 A.H. (629 - 632 A.D.)

According to Abu-Horeirah (a well known Moslem historian at the beginning of the Islamic period, R.) there was an earthquake during the life of Mohammad in the Moslem countries (probably in Medinah; the place is not given in the manuscript, R.). Abu-Horeirah became a Moslem after the conquest of the city fortress of Khaybar in the year 7 A.H., therefore, this earthquake must have happened after Hijrat between 7 A.H. to 11 A.H. (the last year of the life of the prophet Mohammad).

There is also another story that Mohammad was standing on the mountain of Ohod, near the city of Medinah with Abu-Bakr and ^LXi, when a strong earthquake shook that mountain....

3. A.H. means After Hijrat; Hijrat was the flight of Mohammad

vince, R.) was destroyed.... He had heard that afterward in the year 131 A.H. (31 Aug. 748 - 19 Aug. 749) another strong earthquake came and cracked the roof of a mosque, such that the people could see the sky from the inside of that mosque. Then, another severe earthquake occurred which destroyed that building. There was also an earthquake earlier than this one during the time of Ibn-Abbas (who was the well known cousin of the prophet Mohammad and who died in 67 A.H. (686 A.D.), R.), but he does not know the exact year of its occurrence.

180 A.H. (16 March 796 - 4 March 797)

There was a strong earthquake in Egypt which destroyed a portion of the top of the Alexandria minaret.

187 A.H. (30 Dec. 802 - 19 Dec. 803 A.D.)

A major earthquake occurred in Masisah which destroyed some of the walls around that town and all of the houses. The time of its occurrence was about one hour past the beginning of the night.

203 A.H. (9 July 814 - 27 June 819 A.D.)

There were earthquakes in Khurasan which lasted seventy days and destroyed many houses. The Jame' Mosque (the main mosque of a city which is used for the Friday noon prayer by all the inhabitants of that city, R.) of the city of Balkh collapsed, and approximately a quarter of that city was destroyed. This event has been reported by Ibn-al-Jawzi. ^{(4), (5)}

5. No earthquakes between the years 203 and 444 A.H. are reported in the manuscript. In the brief translation of another manuscript

(the text is slightly different from the one in the manuscript)

5. (cont.) of Suyati's work obtained from the Paris library by A. Sprenger (1842), many earthquakes are reported in this period. For the sake of completeness, and as Sprenger's work is not readily available in many libraries, these earthquakes are given in this footnote. This translator has found a few other earthquakes between these dates in another reference by accident. These earthquakes also are included in this footnote marked with asterisks.

219 A.H. (16 Jan. 834 - 4 Jan. 835)

Great darkness from noon until the evening.

220 A.H. (5 Jan. 835 - 25 Dec. 835)

Antakya was destroyed by an earthquake, which lasted forty days.

224 A.H. (23 Nov. 838 - 11 Nov. 839)

An earthquake at Fergana, by which 15,000 persons perished.

225 A.H. (12 Nov. 839 - 30 Oct. 890)

An earthquake at Ahwaz for sixteen days; it was also felt in Jebel.

233 A.H. (17 Aug. 847 - 4 Aug. 848)

At Damascus many persons were buried under their houses; the earthquake extended to Antakya, Jazirah, and Mosul. It is supposed that 50,000 persons perished.

232 A.H. (28 Aug. 846 - 16 Aug. 847)

Several earthquakes, more particularly in the Maghrib and in Syria, where the walls of Damascus and Homs were destroyed. It was felt at Antakya and El-Awassim, in Jazirah and Mosul.

233 A.H. (24 Nov. 847)

On Thursday, the 11th of Rabi-al-Akhar, many buildings were destroyed at Damascus by an earthquake.

234 A.H. (5 Aug. 848 - 25 July 849)

At Herat, the houses were destroyed.

239 A.H. (12 June 853 - 1 June 854)

At Tiberias.

5. (cont.)

240 A.H. (2 June 854 - 21 May 855)

In the Maghrib, thirteen villages of Kairouan sunk.

242 A.H. (3 - 31 Dec. 856)

In Shaban a very violent earthquake. At Tunis about 45,000 persons were buried under their houses; it extended also over Yemen, Khorasan, Fars, Syria, Bustam, Qom, Mashan, Rey, el-Damaghan, Nishapur, Taberistan and Isfahan. The mountains fell down, and the earth opened so extensively that men could walk into it; and in the village El-sud in Egypt, five stones fell from heaven. One stone fell on the tent of a Bedouin and set it on fire. The weight of these stones was ten rotles. In Yemen a hill covered with fields moved from its place and became the property of another tribe.

245 A.H. (8 April 859 - 27 March 860)

Earthquakes prevailed over the whole earth, and many towns and bridges were destroyed.

At Antakya a mountain fell into the sea, with 1005 houses. It had been covered with about ninety villages. The river disappeared one farsang's distance. Dreadful noises were heard at Tinnis.

In Mecca all the springs disappeared. The earthquake extended over Raqqa, Hama, Ras el-'Ain, Hama, Damascus, Raqqa, Tarsus, Lassaissa and Adina. On the shores of Syria, in Latakia, mountains moved with their inhabitants, and when it had destroyed El-sou, it crossed the Euphrates, and was felt in Khorassan.

* 245 A.H. (8 April 859 - 27 March 860)

According to the history of Ibn-al-Wardi (VI. p. 228) in this year there were earthquakes in Sham. It was most severe during Shubat (February also a Jewish month) a temple with big arches was destroyed.

This earthquake has also been reported by Abu-Shamah (V. 1-1 p. 268) he says, "Abi-Hassan al-Razi has read in some books of his elders that in the year 245 A.H. (28 Jan. - 26 Feb. 860) there have been severe earthquakes in Damascus, R.

249 A.H. (24 Feb. 863 - 12 Feb. 864)

In Dhul Hajj was a very violent earthquake, at Rey the houses fell down, and the people took flight into the fields.

256 A.H. (18 Nov. 871 - 6 Nov. 872)

At Wasit about 20,000 persons were buried under their houses, by an earthquake.

5. (cont.)

268 A.H. (1 Aug. 881 - 20 July 882)

At Bagdad an earthquake, followed by torrents of rain and a thunder-storm.

280 A.H. (23 March 893 - 12 March 890)

At Ardebil six earthquakes took place in the course of this year; 100,000 persons died under the ruins of their houses. One of these earthquakes was preceded by an eclipse of the moon, darkness and wind.

288 A.H. (26 Dec. 900 - 15 Dec. 901)

An earthquake which lasted for some days.

289 A.H. (11 June - 10 July 902)

In Rajab at Bagdad, it lasted for some days.

On the day of Arafat which fell in summer, the wind was so cold, that the people were obliged to dress in furs.

300 A.H. (18 Aug. 912 - 6 Aug. 913)

A mountain split at Dinawar, and streams of water pushed out from it, which submerged many villages. A star split into three pieces, and this was followed by a frightful noise.

331 A.H. (15 Sept. 942 - 3 Sept. 943)

At Hesa many buildings tumbled down, and many people perished.

344 A.H. (27 April 955 - 14 April 956)

An earthquake in Egypt; it lasted three hours, and did great damage.

345 A.H. (15 April 956 - 3 April 957)

An earthquake at Hamadan, many lives were lost.

346 A.H. (4 April 957 - 24 March 958)

An earthquake at Rey and about that town, it lasted 40 days, then it discontinued for sometime, but it again returned. It extended to Taliqan, and there sunk 150 villages belonging to Rey. At Rey a mountain sunk, and an enormous chasm opened from which water and smoke rushed out.

(cont.)

47 A.H. (25 March 958 - 13 March 959)

An earthquake at Qom, Holwan, Kaman and Jebal, many people perished; at the same time Bagdad suffered from an earthquake.

During the reign of Kafur the Akhshidiian, repeated shocks of earthquakes visited Egypt within the space of six months.

62 A.H. (12 Oct. 972 - 1 Oct. 973)

Several castles in Syria were ruined by an earthquake.

63 A.H. (2 Oct. 973 - 20 Sept. 974)

At Wasit.

676 A.H. (13 May 986 - 2 May 987)

Many persons perished under the ruins caused by an earthquake.

381 A.H. (20 March 991 - 8 March 992)

According to the history of Ibn-al-Waroi (V.1 p. 311), in this year severe earthquakes occurred in Damascus which destroyed many houses on their inhabitants and destroyed the village of Doomah (one of the villages of the district of Ghouta on the South side of Damascus) and killed all its inhabitants, R.

393 A.H. (10 Nov. 1002 - 29 Oct. 1003)

In Syria, Awbassim, and the Greek frontier, many castles were ruined by an earthquake.

398 A.H. (11 April - 9 May 1008)

In Shaban at Dinawar 10,000 persons perished under the ruins, besides those swallowed up by the ground. An inundation took place at Shiraz, and many ships were wrecked at sea.

During the reign of El-Hakim El-Obeidi, who ruled from 386 to 411 in Egypt, several earthquakes took place.

425 A.H. (26 Nov. 1033 - 15 Nov. 1034)

Many earthquakes took place in Egypt and Syria, by which one-third of Ramlah was destroyed. The walls of Jerusalem fell down, and many villages were swallowed up by the ground.

434 A.H. (21 Aug. 1042 - 10 Aug. 1043)

At Tebris, the fortress and the town were nearly destroyed by an earthquake, and about 40,000 persons perished. Many also perished at Tadmor and Baalabak by the same cause.

444 A.H. (3 May 1052 - 22 April 1053 A.D.)

(4)

According to Ibn-Kathir there was a major earthquake in the areas of Arrajan and Ahvaz and other cities in that region. Due to this earthquake many places were destroyed. Someone who can be trusted has said that the roof of his house was cracked such that he could even see the sky through that crack, then it closed again. This story has been told by the author of Mir'at.

450 A.H. (21 Nov. - 20 Dec. 1058)

During the month of Shawwal between the sunset and the beginning of that night a strong earthquake occurred in Baghdad which destroyed many houses in that city. That earthquake extended as far away as Hamadan, Wasit, Anah, and Tikrit. Also, Tawwahn was destroyed from the severity of this earthquake (possibly from the earthquake of 455 A.H. as the manuscript is not quite clear here, R.)

455 A.H. (30 July - 29 August 1063)

During the month of Sha'ban a major earthquake occurred in the cities of Wasit, (probably the one in Syria), Antakya, Latakia, Sur, Akza, Rum, and the area of Sham. It destroyed a portion of Tarabulus.

458 A.H. (30 April - 29 May 1066)

In the month of Jumada Al-Ukhra there was an earthquake in Khorasan which continued for many days. This earthquake caused cracking and land slides on many mountains, and death of a group of people; then, many villages sunk down and many people ran away

5. (cont.)

438 A.H. (

Khelat and Diarbekr.

to the deserts and plains. During this time a letter from there reached Baghead which was written by Sheigh.... In this letter he described the earthquake and the condition of the people in this way; "the earth is shaking, the bodies are trembling, the thoughts have escaped the brains, the hearts are weakened, the eyes are full of tears, the chests are full of sorrow, the hearts are full of fear, the inhabitants have left the town from the fear of this immense earthquake. It was so severe that the mountains were shaken and the earth was cracked, the villages were destroyed on their inhabitants; only a very few people survived this earthquake. The number of the people killed is beyond counting and most of the houses of the city are destroyed; it seems that the day of resurrection has come before it is due. Crying and mourning is all around and only few people have survived. The people are shocked from this horrible earthquake as though they are stone drunk. The earth is shaking and stretching; this is nothing but the wrath of the Almighty." This description has been reported by the author of Mir'at.

460 A.H. (18 March 1068)

On Tuesday the 11th of Jumada Al-Aula, Ibn-al-Jawzi has said that a severe earthquake happened in Palestine; and the city of Ramllah was destroyed; and in Hejaz (the NorthWest regions of Saudi Arabia) two of the towers of the Mosque of the prophet Mohammed in the city of Medinah fell down. The earthquake extended to the villages of Safra, Khaybar, Badr, and Yanbu and the villages of Kura, Tayma, and Tabuk. The earth was cracked in

Tayma where treasures appeared in the ground. Its effect reached the cities of Rohbah and Kufah. A letter came from some merchants in which they said that the entire city of Ramllah had sunk into the ground, where only two houses survived, and 25,000 of its people perished. Also, the city of Eilat and what-ever was in it were destroyed. The famous stone in the city of Beit-al-Moghadas (Jerusalem) was cracked, and again, by the wishes of God, was connected together. The water of the sea departed by as much as a one day walk from the shores; then, it came back to its original place. The earthquake in these cities happened all at the same time. (6)

462 A.H. (25 Feb. 1070)

On Tuesday the 11th of Jumada Al-Aula (this day the 25th of Feb. 1070, however, appears to fall on Thursday, R.) according to Ibn-al-Jawzi severe earthquakes happened in Ramllah and its surroundings, and in (Jerusalem) and Egypt. A corner of the Jame' Mosque of Egypt was destroyed. This earthquake was followed by two other earthquakes shortly afterward.

464 A.H. (29 Sept. 1071 - 16 Sept. 1072)

Strong earthquakes occurred in Baghdad which shook the earth six times.

6. Ibn-al-Qalanisi (p.94) has reported the occurrence of/severe earthquake on Tuesday the 10th of Jumada-Al-Aula of this year in Palestine which destroyed the houses, and the walls of Ramllah and its Jame' Mosque and killed most of its people under the rubble. From the severity of the earthquake water appeared in many springs. In Banias around 100 people died under the rubble and similarly in Beit-al-Moghadas (Jerusalem).

Ibn-al-Wardi (V.1 p.372) has also reported that in this year Palestine and Egypt were shaken by earthquakes until water appeared from the springs and filled up a large area. The sea departed from the shores for about a one days distance, then, it rose up from the ground and water returned and killed many people, R.

478 A.H. (29 April - 27 May 1085)

In the month of Muharram there was an earthquake in Arrajan (or Ergene, see Appendix 1) and many people of Rum and their herds were destroyed.

479 A.H. (18 April 1086 - 7 April 1087)

In Iraq, Sham, and Jazireh there were strong earthquakes which destroyed many buildings. A large number of the people of Iraq left the towns for the plains, but later on they returned.

484 A.H. (23 Feb. 1091 - 11 Feb. 1092)

In Sham and other areas there were strong earthquakes which destroyed many buildings. Among the ruins were the ninety fallen towers of the wall of the city of Antakya. Many people were killed under the debris.
(7),(8)

508 A.H. (7 June 1114 - 26 May 1115)

A major earthquake happened in the region of Jazireh which destroyed about thirteen towers from the city of Ruha (Ufra), and some portion of the city wall of Harran. It destroyed many houses and killed many people. In Balles (or Elsun) about 100 houses

7. Ibn-al-qalanisi (p.120) has reported that on Tuesday night the 9th of Sha'ban (26 Sept. 1091, this day seems to fall on Friday. According to the text this day was on Tashrin al-Awal which is the month of October, R.) a severe and frightening earthquake occurred in Sham such that no one had ever witnessed anything like it before. The people ran out of their homes and were afraid to return. It is reported that many buildings were destroyed in Antakya and a big church (or temple) was demolished killing many people under its debris. Approximately seventy towers of the city walls were destroyed and they remained like that until King Malek Shah ordered their repair and the repair of other deteriorated parts.

8. 487 A.H. (21 Jan. 1094 - 10 Jan. 1095) — Ibn-al-qalanisi (p.127) has reported that in the middle of the year 487 A.H. unusual earthquakes occurred many times during the days and nights. All these earthquakes were long and continuous contrary to the usual

were leveled, its fortress was destroyed, and only half of it survived. The earth in Shamshat (Samsat) and other places cracked and sank.⁽⁹⁾

511 A.H. (5 May 1117 - 23 April 1118)

On the day of Arafa (9th of Dhu al- Hijja) there was a severe earthquake in Baghdad which destroyed many buildings.⁽¹⁰⁾

513 A.H. (10 Dec. 1119)

Imam Abol-Ghasem al-Rafe'ei, in the book History of Qazvin, has said that in this year on Wednesday night the fifth of the month of Ramadhan a strong earthquake occurred in Qazvin which again reoccurred one full lunar year later, (Sunday 28 Nov. 1120).

515 A.H. (22 March 1121 - 11 March 1122)

There was a strong earthquake in Hejaz which displaced the Rokn al-Yamani (for the description see Appendix I) of the Shrine of Kaaba in the city of Mecca, and destroyed a portion of it. Also, it destroyed some parts of the Holy Mosque in the city of Medinah.

516 A.H. (12 March 1122 - 31 Dec. 1122)

According to Mir'at there was a strong earthquake in the city of Heirat which sank one side of the city and destroyed its walls. (In Mir'at (p.102) the name of the city is Janzah, see Appendix I for location, R.)

8. (cont.) earthquakes. The exact location is not given, however, most probably, they occurred in Damascus and Syria, R.

9. This earthquake is reported in Mir'at (p.52) with a slight difference; he adds the occurrence of fire in Harran. Ibn-al-Qalanisi (p.191) has also reported an earthquake in Sham in this year.

10. Mir'at (p.68) has reported that this earthquake also oc-

524 A.H. (12 Feb. - 13 March 1130)

According to Mir'at in the month of Rabi' Al-Awal there was a strong earthquake in Baghdad which destroyed many houses and killed many people (Mir'at, p.132).

529 A.H. (22 Oct. 1134 - 10 Oct. 1135)

Sehte, the grandson of Ibn-al-Jawzi, has reported in the book of Mir'at that in this year in Baghdad there were so many earthquakes that one could not count them. The beginning of it was Thursday the 11th of Shawwal (25 July 1135 A.H.) and on each day it repeated six times until Friday the 17th of Shawwal (2 Aug. 1135, Friday appears to fall on the 19th, R.). Then again on Tuesday night (6 Aug. 1135) the earth trembled from midnight until morning and the people were crying and praying for help (Mir'at, p. 153).

532 A.H. (19 Sept. 1137 - 7 Sept. 1138)

A strong earthquake happened in Sham, Jazireh, and Iraq; a large number of villages were destroyed and a lot of people (11) perished.

533 A.H. (8 Sept. 1138 - 27 Aug. 1139)

A severe earthquake occurred in Heirat. (Janzah in Mir'at, p. 168). Due to this earthquake 30,000 people died. The earth

10. (cont.) stroyed the city walls and killed many people. Abu-Shama (p.70) quoting Ibn-al-Athir in the book of Atabek reports a strong earthquake in this year in the city of Erbil and its neighbouring towns.

11. Ibn-al-Qalanesi (p.263) has reported the occurrence of a severe earthquake in the month of Safar (19 Oct. - 16 Nov. 1137) of this year in Jazireh and around Mosul destroying many places and killing many of their people, R.

at Hoirat (Janzah) sunk and in its place some black water appeared which extended for ten farsakhs (about 60 km., R.). In the city of Haleb during a single night earthquakes occurred eighty-one times. Abu-Yo'la, al-qalanisi (in the manuscript is, al-Fala-fessi) has told that this earthquake happened all over the world, but in Haleb it was the most severe, such that, the walls of the city and the towers of its fortress were thrown apart. (12)

538 A.H. (19 May 1144 A.D.)

th

On Tuesday night the 14 of Muh al-qu'ada (this date seems to fall on Friday and not on Tuesday as given in the manuscript. R.) the earth shook by a strong earthquake. The authors of Mir'at and Ibn-Kathir have reported briefly the occurrence of this earthquake (the place of occurrence is not given. R.) (13), (14)

544 A.H. (11 May 1149 - 29 April 1150)

Strong earthquakes shook the city of Baghdad about ten times. Due to this earthquake, in Halwan a mountain cracked and

12. Ibn-al-qalanisi (p.268) has reported that on Tuesday afternoon the 4th of Safar of this year (11 Oct. 1138), there was a severe earthquake in Damascus which shook the earth three times. Then, early on Friday night (14 Oct.) another earthquake occurred which shook the earth many times. On Monday night the 17th of Safar (24 Oct.) earthquakes returned again. On Tuesday (25 Oct.) there were three more, then an earthquake occurred on Wednesday night (26 Oct.) and another during the last quarter of Friday night (28 Oct.). It is reported also that these earthquakes were very strong in Haleb and in the cities, fortresses, and regions above it, such that in Haleb many buildings were destroyed and the city walls and the walls of the city fortress were ruined. People were frightened and left the city and stayed outside. Most of the reporters said that earthquakes occurred about 100 times, others who have investigated the situation said that they occurred about 80 times. R.

13. According to Mir'at (V.8-1 p.184), in this year a strong earthquake occurred in Bagdad; and a comet also appeared in this year which remained for 10 days. R.

14. 542 A.H. (4 March 1148) — Ibn-al-qalanisi (p.296) reported that on the 11th of Shawwal of 542 A.H., in the afternoon

a large number of Turkomans were killed. (The author probably refers to the Seljuq or Kara-qayunlu Turkomans who were ruling this region at that time. R.)
(15,)(16)

549 A.H. (18 March 1154 - 6 March 1155)

There was a strong wind after sunset, such that one could see the blaze of fire inside it. The people were frightened and thought that the resurrection day had come. After that a strong earthquake occurred (probably in Baghdad, R.). The color of the water of the river Tigris became red. In the area of Wasit, blood came out from the ground, the cause of which has remained unknown (no reference is given, R.).

550 A.H. (7 March 1155 - 24 Feb. 1156)

An earthquake occurred in Baghdad.

551 A.H. (25 Feb. 1156 - 12 Feb. 1157)

Sheikh Iman al-Hafez Abu-Shameh, in his book called Kitab Al-Rawdatayn, has described this event. (17) He has recorded the

14. (cont.) it became absolutely dark in Damascus and strong thunder and earthquakes occurred. (Probably, this was not an earthquake but the vibration due to strong thunder. R.). Abu-Shama repeats the same story based on this reference. R.

15. According to Mir'at (p.201) this earthquake occurred in Dhu al-Hijja (1-29 April 1150). It cracked the walls in the city of Baghdad. It reached the area of Halwan, cracked its mountain and slid it (or sunk it) to the ground. It destroyed many buildings and many people were killed under them. R.

16. 546 A.H. (20 April 1151 - 7 April 1152) — Ibn-al-Qalanisi (p. 317 - 318) reported an earthquake on the night of the 13th of Jumada-al-Ukhra (27 Sept. 1151) which shook the earth three times in the regions of Busra, Hawran, (Baknat?) and their surrounding areas. It destroyed many buildings and walls in Busra and other places. He also has reported the occurrence of earthquakes on Saturday the 22nd of Shawwal (1 Feb. 1152) which was the third day of Shubat (Feb. also a Jewish month), causing the earth, buildings, and walls to be shaken strongly three times before noon. Abu-Shameh repeats the same account based on this reference. R.

17. The report of Abu-Shama (V.1-1 p.260) is quoted from

poems and the stories which have been said about this earthquake.

According to Abu-Shamon, in this year and the year after, there were many earthquakes in Sham (on Thursday night the 9th of Sha'ban 551 A.H. (27 Sept. 1156) equivalent to the 27th of Ailul (September) at two hours past sunset a severe earthquake shook the earth three or four times. Q). On the night of the 22nd of Rabi' al-Awal (Tuesday, 15 May 1156 A.D.), (on Wednesday night the 22nd of Sha'ban (10 Oct. 1156). Q), a frightening earthquake occurred. Before and after that earthquake there were similar earthquakes during the days and nights. Then after this, three other lesser earthquakes occurred which altogether amounted to six times. On the night of the 25th of this month (Friday, 18 May 1156), (on Saturday night the 25th of Sha'ban (13 Oct. 1156), Q), strong earthquakes occurred, one in the morning and the other one at sunset which terrified the people. The news of earthquakes also came from Haleb and Hama reporting that the earthquake had destroyed many places. One of the towers of Afamieh was destroyed in this earthquake. A person who counted them said that there were about 40 of them. (It is not clear whether it was 40 earthquakes, towers, or cities. R.) There had not been any earthquakes similar to this during the past years or centuries. On the 29th of the same month (Tuesday, 22 May 1156), (on Wednesday the 29th of Sha'ban (17 Oct. 1156). Q.), one earthquake occurred at the end of the day and another at the end of the night. At the beginning of the month of Ramadhan (Thursday, 18 Oct. 1156), (Monday. Q.) a frightening earthquake occurred, then a second one and a third one. On

17. (cont.) the book of Ibn-al-Qalanisi (p.334) in a very condensed form. The additional information which is not in the manuscript but is reported by Ibn-al-Qalanisi is included in the text within the paranthesis marked with Q.

the third of Ramadhan (20 Oct. 1156), (Tuesday, Q.) three earthquakes occurred (the first one was frightening, but the second one and the third one were smaller., Q.), then, another one happened at noon and another frightening one at midnight.

During the night of the middle of the month of Ramadhan (Thursday, 1 Nov. 1156), (one hour passed sunset on Friday night, Q.) a frightening earthquake stronger than the previous ones occurred; then, another milder one came in the morning. During the next night (Saturday night, Q.), two earthquakes happened, one at the beginning and the other one at the end of the night. Also, two days later (Monday, Q.) and on the night of the 23rd of Ramadhan (9 Nov. 1156), (during the early hours of Friday night, Q.), strong earthquakes occurred. On the second of Shawwal (18 Nov.), (early morning of Sunday, Q.), a strong and frightening earthquake happened that was more severe than the previous ones. Also it happened on the 7th (23 Nov.), (early morning of Thursday, Q.) and the 16th of the month (2 Dec.), (early morning of Sunday the 13th of Shawwal, Q.). On the next day (the 17th, 3 Dec.), (Monday the 14th, Q.) four earthquakes happened. On the night of the 22nd (8 Dec.), (Sunday night, Q.) again there were strong earthquakes. (Then, numerous other earthquakes came which will not be mentioned). The news came that in Haleb there had been many similar earthquakes destroying many homes. In Shayzar a large number of houses fell on the inhabitants and killed many of them. In Kafre-Tāb the people fearfully ran away from the town. The same thing happened in Hama. (I don't know what happened to the rest of Sham., Q.)

552 A.H. (13 Feb. 1157 - 1 Feb. 1158)

In this year a major earthquake occurred in Sham which caused the death of so many people that only God know their number. It destroyed most of Halab, Hama, Shayzar, Homs, Kafre-Tab (18) Hush-el-Akrad, Latakia, Ma'arra, Antakya, and Tarnabulus (Afamiah, (19) Damascus, and all of the Awassims. M.). According to Ibn-al-Jawzi nobody in Shayzar survived except a lady and her servant, the rest of the people perished. In Kafre-Tab not a single person survived; its fortress was destroyed. (18) Talle-Harb (Talle-Jeyroun, M.) (19) cracked into two parts; many houses, buildings, and ceramic objects were found inside it; many cities of the Franks (20) were destroyed and most of the walls of the cities of Sham fell down. (The fortress of Afamiah was destroyed. The ground in Latakiah cracked and a standing statue of a lady inside the water was found in the crack. The towers of most fortresses fell; the cities of Saïda, Beyrout, Akka, Sur, and all the fortresses of the Franks were destroyed, M.). (19) So many people were killed in this earthquake that there is a story^{vy} that a teacher in a school in Hama went out of the classroom; when he returned, the school building had collapsed on the children killing all of them; more strange was the fact that noone came to ask about the fate of his child who was in that school. (21)

18. Not reported in Mir'at (V.8 p.228).

19. Reported in Mir'at (V.8 p.228), but not in the manuscript.

20. Franks is the name given to the European crusaders by the Arabs. At the time of this earthquake, the second crusade was in progress and many fortresses and cities, especially the ports in Sham, Rum, and Palestine were in the hands of the Franks.

21. Ibn-al-qalanisi (p.94) has reported this story for the earthquake of 460 A.H. in the city of Ramllah.

On the night of the 19th of Safar (2 April 1157) a strong and frightening earthquake occurred (Wednesday night at dusk, (22) Q). then, another one occurred (a less stronger one on Thursday night a few hours past sunset, Q), and the same happened on the night of the 20th and on the day afterward (after the Friday noon prayer, Q), (the 3rd and 4th of April). News arrived from the regions of Sham about the large destructive effect of these earthquakes (especially the first one and the last one in the cities of Shayzar, Hama, Kafre-Tab, Afāmiah, and regions above them up to some locations of Haleb, Q).

On the night of the 25th of Jamāda-al-Aula four earthquakes occurred, (The first one occurred on Thursday three hours past sunrise shaking the earth for some time; the second one occurred a moment after the 6th hour (6 hours past sunrise) of that day. Then at the 8th hour of that day the third one occurred which was more frightening and stronger than the two previous ones. At the end of that day during the evening the fourth earthquake occurred which was a horrible one. Q). The people were crying and praying loudly for God's mercy.

On the fourth of Jamāda-al-Ukhra (14 July) during the night, two earthquakes occurred (It was Sunday night the first one occurred near the morning prayer at dawn, which was a frightening one, then another smaller one occurred shortly after. Q). The news came from the northern regions that these earthquakes

22. This portion of the manuscript seems to be a summarized version of the report given by Abu-Shamah (p.261-281). The report of Abu-Shamah is also a condensed copy of the report given by Ibn-al-Qalanisi (p.337-348) and others. The additional information given by Ibn-al-Qalanisi or Abu-Shamah, which is not in the manuscript, is given inside the paranthesis marked with the letters Q and S respectively.

had horrible effects on the city of Haleb scaring and horrifying its people. The same situation was in Homs, Hama, and Kafre-Tab in which some parts were destroyed, and also in Afamiah in which the earthquake destroyed what was left to be destroyed after the previous earthquakes including the portions which had been built or repaired. (According to reports these earthquakes also had a destructive effect on the houses of the city of Tayma. Q).

On the 4th of Rajab (12 August 1157) during the daytime (Monday the 7th hour past sunrise, Q) a strong earthquake occurred in Damascus with such an intensity that had not been seen before. The shaking continued until the people were scared for their own lives and they ran out from their homes, shops, and covered areas. It had a destructive effect in many places: large portions of the ornaments of the Jame' Mosque fell down, so that they could not be repaired or replaced afterward. Soon after this another earthquake occurred and then it became quiet for a while. (Then, at the beginning, middle, and end of the night of the same day earthquakes struck again which were not as strong as the first ones, Q).

On Friday night the 8th of Rajab (16 August 1157) a frightening earthquake occurred which scared the people, then at midnight another one occurred and at dawn the third one and the same pattern happened during the nights of Saturday, Sunday, and Monday. Thereafter, similar earthquakes occurred whose details are too long to report.

The news from the northern regions were so bad, that people were afraid to hear it. According to this news the city of Hama, its fortress, and all its buildings and houses had been destroyed on its inhabitants including old and young, women and children.

God's mercy. Then, at dusk a smaller third one occurred and after that a smaller fourth one occurred and then the fifth and sixth ones and then it quieted down. These earthquakes did not cause extensive damage in the city. On Friday the end of this month (15 Jan. 1158) after about two hours past sunrise, an earthquake occurred frightening the people and causing them to run outside.

(The manuscript in this part contains a reference to Kalam Ibn. Al-Athar, Al-Mota'adem's report about the destruction of a school in Hama on children which was described earlier. It also contains some poems by Moayed al-Doulah.... It seems that this information was taken from the book of Abu-Shamah with excessive condensation and omission. The detailed description of these events are as follows:

According to Abu-Shamah (V.1-1 p. 264) Ibn-Athir in his book of Atabek has reported that in the year 552 A.H. there were severe earthquakes in Sham. They occurred one after each other destroying the towns and killing the population. They were most severe in the city of Hama and on the fortress of Shayzar which both were destroyed at one time. The same happened to their neighbouring towns and villages such as the fortress of Barin and Ma'arra, etc. Many people were killed under the debris of whom only God knows their number. It destroyed city walls, homes and fortresses. If the Moslems were not fortunate for having King Nour-al-Din present to control and protect their cities, the Franks would have entered them without having to fight or surround them. He then tells the story of the collapse of the school in Hama on the children as was reported earlier. Accord-

ing to Abu-Shamah (V.1-1 p.264) somebody had read a report in the court of the eminent Emir Mouyed al-Doulah Assamah Ibne-Morshed, Ibne-Monqad saying that from the earthquakes which killed many people of Sham and which started in the month of Rajab of the year 551 about 10,000 people were killed in the provinces under his rule. Abu-Shamah then reports many interesting poems that had been said about this earthquake. In one of these poems it describes, that, after the earthquake people lived in houses and cottages made of wood. R.)

553 A.H. (2 Feb. 1158 - 22 Feb. 1159)

According to Ibn-Maysar in the book of the History of Egypt in this year in the month of Sha'ban (28 Aug. - 25 Sept. 1158) Al-Saleh 'Talai' Ibn-Ruzzik, the ruler of Egypt, sent an army to stop the advances of the Franks. At this time a frightening earthquake occurred; the Franks were defeated and ran away; the Moslems took over their belongings and their tents. There is a poem describing this event in detail and glorifying Al-Saleh (the poem is not recorded in the manuscript. According to Ibn-al-Qalanisi, around this time there had been a similar war between the troupe of Ibn-Ruzzik and the Franks in the area of Al-Arish in the desert of Jafar (between Egypt and Israel) which may be the location of this earthquake, R). See footnote (23) for additional earthquakes during this year. See also footnote (24).

23. According to Ibn-al-Qalanisi (p.351) on the 15th of Rabi, al-Awal 553 A.H. (16 April 1158 A.D.) reports came from the region of Haleb, that frightening earthquakes heppened there, disturbing the people and shaking their homes, then it quieted down. Also, during the night of the 25th of Rabi, al-Awal (26 April 1158) there was a frightening earthquake in Damascus. Also, late Wednesday night of the 23rd of Rajab (20 Aug. 1158 A.D) there was a fright-

565 A.H. (25 Sept. 1169 - 13 Sept. 1170)

There was a severe earthquake in Sham and Juzireh which extended to a large region. It destroyed many city walls in Sham and caused the collapse of many houses on their inhabitants especially in Damascus, Homs, Hama, Haleb and Baalaback. It destroyed city walls and many fortresses and buildings. King Nour al-Din rebuilt most of the buildings which had been destroyed during this earthquake or those destroyed earlier.

The eminent judge Al-Sharif who has observed the occurrence of this earthquake in Sham, causing the destruction of many city walls and buildings has described it in the following manner;
(condensed by the translator, R).

23. (cont.) ening earthquake just before the morning prayer, then after one day, on Thursday night during the morning prayer, another one came. The above earthquakes have been reported also by Abu-Shamah (V.1-1 p.299) quoting Ibn-al-Qalanisi. R.

24. 554 A.H. (Jan. 1159)

According to Ibn-al-Qalanisi (p.354) on Friday the first of Muharram 554 A.H. (23 Jan. 1159 A.D.) a strong earthquake occurred around sunrise, then, during the day two smaller ones occurred.

On midnight of Sunday of the 22nd of Rabi-al-Awal (13 April 1159) there was a strong earthquake which shook the area with four waves, waking up everybody who was asleep, and arising those who were awake and frightened those who were at home for their lives and their homes. He has said that he does not know of its effect on distant areas (p.357).

On Friday the 7th of Janada-al-Aula (27 May 1159) of this year, very strong winds blew for a day and a night destroying most of the spring and summer fruits and plantations and damaging some of the trees, then, at the end of the night a frightening earthquake occurred which shook the ground in two waves; it scared the people and caused them to run outside; fortunately, it did not damage the buildings (p.357).

The location of the above earthquake is not given, however, as his book is about the history of Damascus, then, it can be concluded that these earthquakes have occurred there. R.

It was such a major earthquake and so widely spread that it destroyed every house, ruined every fortress, pulled down every tall building, demolished every existing structure, made poor every rich person, made busy every thought, degraded every new thing, ruined every secure castle, made wicked the wise men, de-
(25)
filed every harbour, put to shambles every mountain road, etc.

In Haleb it was most severe, such that half of its fortress and the city was destroyed killing 80,000 of its people under the debris. It destroyed the walls of all its fortresses; and its inhabitants went to the open country. The fortress of Husn-al-Akrad was destroyed such that nothing was left from its wall. The same happened in Hama and Homs. (The army of Moslems under King Nour-al-Din and that of the Franks were very scared of each other at this time because most of the fortresses were in ruins. They had to divide their army among various fortresses for defensive roles.)

This earthquake was wide spread in the world, destroyed the fortress of Moslems and their cities in Sham, Haleb, Awassims, and Antakya. It occurred in Latakya, Jeblah ~~الجبلة~~ and in all the cities on the sea shores until Darum. It has been reported that in Damascus only one person was killed by a falling stone when he was on the stairs of Jayroun. The rest of the people survived because they ran out to the fields. The earthquake extended and passed the Euphrates River and reached Mosul, Sinjar, Nusaybin,

25. This earthquake has been described in more detail in Mir'at (p.279) and by Abu-Shamah (p.467) quoting Ibn-al-Athir in his book Atabek. These descriptions are as follows:

According to Mir'at, in the month of Shawwal (16 June - 16 July 1170) there were frightening earthquakes in Sham which destroyed most of Damascus. The balconies of the Jame' Mosque and the tops of the preaching platforms (or minarets), which were shaking like a date tree in a strong wind, fell down.

quakes causing mountains to strike each other. There were two mountains with some distance between them and they moved and struck each other, then returned to their original places.

575 A.H. (8 June 1179 - 27 May 1180)

According to the history book of Ibn-al-Kathir there were strong earthquakes which caused the destruction of fortresses and villages; and many large rocks were thrown down from the tops of the mountains (the location is not given, R.).⁽²⁶⁾

587 A.H. (29 Jan. 1191 - 17 Jan. 1192)

After the Hajis (pilgrims) left Mecca (around Jan. 1192), a black wind blew in all the areas. The shrine of Kaaba in the city of Mecca shook many times and some parts of the Rohn-al-Iamani (see Appendix I) fell down. Egypt also was shaken.⁽²⁷⁾

598 A.H. (24 Nov. 1196 - 12 Nov. 1197)

A big star exploded and a frightening noise was heard from its explosion. It shook the houses and buildings; the people were crying and praying to God for help. Ibn-al-Kathir has said that a letter came from the Judge, Al-Fazil (vizier of Saladin) to the Judge Yahya-al-Din, Ibn, al-Zaki reporting the news of that event. According to this report on Friday night the ninth of Jamada al-Ukhra (29 April 1197, which seems to fall on Tuesday) there were patches of dense darkness in the sky, then there was much lightening; and

26. According to Mir'at (p.387) in 582 A.H. (1186 A.D.) all the astronomers and astrologers predicted that the world was going to be destroyed in the month of Jamada, al-Ukhra. The people became prepared and dug shelters and basements and stored food in them. The assigned time passed and nothing happened. There are many poems about this lying of the astronomers. R.

27. Mir'at (p.449) reports the same events (except shaking of Egypt) and says that red sand also rained on the people.

very strong winds; then, they gradually became larger. There was loud noise of lightening and thunder, then the earth started shaking and the distant walls struck each other, and a layer of dust was generated between the earth and the sky. (probably in Egypt R.)

(28)

597 A.H. (7 May - 4 June 1201)

In the month of Sha'ban there was a severe earthquake which reached all parts of the world (at the same time, M). The author of Mir'at and others have reported that there was a very severe earthquake starting from Sa'id which destroyed many buildings in Egypt killing large numbers of people under the debris. It extended from there to Sham, Savahel (the sea shores), Jazireh, and the cities of Rum and Iraq. In Sham it destroyed many buildings in the area of Basra. In Savahel it destroyed many buildings and killed many people. It ruined many houses in Tarabulus, Sur, Akka, and Nablus. In Nablus nothing was left standing except the Harat-al-Samarah (it seems to be the name of the holy temple of a group of Samaritan Jews, see Appendix I). Thirty-thousand people perished there under the debris. (It reached Damascus and destroyed most of the homes; only a few homes survived the damage. The people ran out into the streets. M). A large number of the eastern minarets fell in the Jame' Mosque of Damascus, also, fourteen (16. M) of its balconies and most of kelasah (or most of the lime kilns) and the hospital of Nouri

28. In the manuscript the year is recorded as 599 A.H., however, in Mir'at (p.477) it is 597 A.H. which also is in a correct ascending order with the next earthquake in the year 598 A.H. Mir'at has reported most of the information given in the manuscript with some extras and some omissions. Itams appearing within the paranthesis marked by M are the extra information given in Mir'at. R.

(built by King Hour-al-Din) were destroyed. (It cracked the dome of Nasr, and there was land cracking and subsidence around Kelasah (limekilns?). Banias, Huncin, and Tabrin were also destroyed. M). A group of people from Baalabak were collecting Ribbas (a plant used for food) in the mountains of Lebanon; two mountains fell on them and killed all of them. (The fortress of Baalaback was destroyed even though it was built very strongly with large stones. The earthquake reached Homs, Hama, Haleb, and Awassim. It passed the sea and reached Cyprus. M). This earthquake passed through Cyprus and separated the sea and made waves like mountains, which then, were thrown to the shores with all the ships. It extended to the eastern regions to Khalat, Armeniah, and Azerbaijan. It has been estimated that approximately 1,100,000 people perished in this earthquake. The duration of this earthquake in the beginning (or of the first earthquake) was as long as it takes a man to read the Zahf Surah in the Koran. (29)

Then, earthquakes continued for a few more days. Some of the literary people have described the situation as follows: After the occurrence of these earthquakes, in the area of Sham there were great disasters and chaos in most locations. There were calamities from the region of Jazireh to the cities at the sea shores. The fortresses and towns were destroyed, unaccountable numbers of houses, buildings, and luxurious homes were demolished from the foundations to the tops. (The manuscript contains a fine literary paragraph here which describes the suffering of the people at this time. The causes of this calamity were blamed

29. Zahf is the name of one of the Surah's (chapter or section) in the Koran which is about ____ words. It took the translator ____ seconds to read it fast. R

on the increase in sinning, usuary, oppression, and disobeying religious orders. R).

598 A.H. (1 Oct. 1201 - 19 Sept. 1202)

It is reported in Mir'at that in the month of Sha'ban there was a severe earthquake which caused the cracking of the fortress of Homs. The watch tower which was on that fortress was thrown down. It destroyed Husn al-Akrad and extended to Mablus and destroyed its remaining parts. (It also reached Cyprus, M).

600 A.H. (10 Sept. 1203 - 28 Aug. 1204)

There was a severe earthquake in the region of Egypt, Sham, Jazireh, Mosul, Iraq, and in cities of Rum, Cyprus, and other cities. This has been reported by Ibn-Athir in his book Al-Kamel. Others have said that this earthquake extended as far as Sabta (in the manuscript it is Shayba) in the cities on the west (Maghrib).

605 A.H. (16 July 1208 - 5 July 1209)

According to Mir'at the city of Neyshapour was shaken by a strong earthquake which continued for 10 days. (Many people were killed under the debris, Mir'at (p.539)).

608 A.H. (15 June 1211 - 2 June 1212)

There was a strong earthquake which destroyed many houses in Egypt, Cairo, and also in the cities of Zarak and ^{Shawbak} ((Saveida?)) where it destroyed many towers from its fortresses. Many children and women perished under the debris. It has been reported that between sunset and the beginning of the night something fell down from the sky near the grave of Atekeh (the daughter of Yazid the

second Ommayed's Khalife) on the west side of Damascus.

623 A.H. (2 Jan. 1225 - 21 Dec. 1226)

According to Ibn-Athir in this year there was an earthquake in his region (Jazireh, Mosul) which destroyed many villages there.

654 A.H. (26 June 1256)

On Monday the beginning of Jamada al-Aula in the holy city of Madineh, there was a noise like that of far thunder, then it was repeated many times for about two days. Then, on Wednesday night after the noise, a strong earthquake occurred which shook the earth and the buildings. (30)

See Footnote 21 in earthquakes after 654 A.H.

" END "

*This footnote should become a part of
Appendix I*

31. No earthquakes after the year 654 are reported in the manuscript. In A. Sprenger's (1843) translation of Suyuti's work, the following additional earthquakes are reported: also, see footnote number 5.

657 A.H. (29 Dec. 1258 - 17 Dec. 1259)

In Egypt.

661 A.H. (15 Nov. 1262 - 3 Nov. 1263)

MOSOL
Mausil.

662 A.H. (4 Nov. 1263 - 23 Oct. 1264)

In Egypt.

667 A.H. (10 Sept. 1268 - 30 Aug. 1269)

In Sus, by which many castles were destroyed and many lives lost. (KARAK - 37 27 N - 34 43 E A.)

692 A.H. (11 Jan. - 8 Feb. 1293)

In the month of Saif^{ar} at Famia, Fakul and El-Kerk^{ll} three villages were destroyed. (GAZA was also damaged A.) (Lcd A.)

693 A.H. (2 Dec. 1293 - 20 Nov. 1294)

In Egypt.

702 A.H. (8 August 1305)

On the 23rd Dhu-^{Shu-12-1305}l-hajj, Thursday, in Egypt and Syria, many persons were buried under the ruins, and all Alexandria was submerged under the sea.

722 A.H. (20 Jan. 1322 - 9 Jan. 1323)

In M^uh^arrum at Damascus at night.

729 A.H. (2 - 31 May 1329)

In Rajab^a, at Tripolis^{Tarabulus} and in Syria^{Sham}.

744 A.H. (26 May 1343 - 14 May 1344)

In Egypt and Syria^{Sham}.

741 A.H. (21 February 1341)

On the 4th of Ramazan^{ll}, two shocks in one hour at Cairo.

31. (cont.)

775 A.H. (23 June 1373 - 11 June 1374)

A slight earthquake at Cairo.

787 A.H. (19 Sept. 1385)

On the 13th of Shāban, slight earthquake at Cairo and Egypt.

788 A.H. (17 July 1386)

The 18th ^{Jumada al-Ukhra} Jomada 2nd, a slight earthquake.

791 A.H. (31 Dec. 1388 - 19 Dec. 1389)

Safr at Nishapur, violent wind and earthquake; many souls lost. Nishapur was seven times destroyed by earthquakes, but this time was the worst, (13 Jan. - 27 Feb. 1389).

^{al-ykhra} Aleppo and its dependencies suffered from earthquakes on ^{Jumada} Jomada 2nd, and Shāwan and Jomada 1st; and besides that several times in the same year. ^{al-ykhra}

809 A.H. (18 June 1406 - 7 June 1407)

An earthquake in ^{Antakya} Antiochia, many lives lost.

811 A.H. (20 Dec. 1408 - 17 Jan. 1409)

In Shāban about ^{Halel} Aleppo and ^{Tarabulus} Tripolis, many lives lost by earthquakes.

822 A.H. (28 Jan. 1419 - 16 Jan. 1420)

At Arzungan and Constantinople.

825 A.H. (26 Dec. 1421 - 14 Dec. 1422)

At Cairo.

828 A.H. (16 June - 16 July 1425)

In Shāban, in Egypt, three shocks in one day.

834 A.H. (14 April - 12 May 1431)

In Shāban, at Granada, and in Spain.

838 A.H. (4 Nov. - 2 Dec. 1434)

In Rabi 2d at Cairo.

31. (cont.)

841 A.H. (28 Jan. - 25 Feb. 1437)

In Shāban at Cairo, a slight earthquake.

861 A.H. (29 Nov. 1456 - 18 Nov. 1457)

At Arzangan, the most part of which was destroyed.

863 A.H. (8 Nov. 1458 - 27 Oct. 1459)

At Kerk ^{Karak} 100 lives lost by an earthquake.

881 A.H. (26 April 1476 - 14 April 1477)

In Egypt a slight earthquake at night.

880 A.H. (23 May 1475)

17 th of Mubarram, at noon, a violent earthquake in Egypt.

888 A.H. (15 June 1483)

The 9th of ^{Jumada al-Aula} ~~Jomada~~-1st, on Sunday, a slight earthquake.

889 A.H. (29 March - 27 April 1484)

^{Rabi al-Awal} ~~Rabi~~-1st, six or more terrible shocks at ^{Haleb} ~~Aleppo~~.

896 A.H. (22 April 1491)

^{Jumada al-Ukhra} ~~Jomada~~-2d, on Sunday, ^(This date seems to fall on Friday) a slight earthquake in Egypt.

905 A.H. (24 July 1500)

The night of Friday 27th Dilhajj, a slight earthquake.

Dhu al-Hijja

REFERENCES

not yet complete : to go to Appendix III

- Ambraseys (1961). "On the Seismicity of South-West Asia; Data from XV-Century Arabic MS", Revue Pour l'Etude des Colomites, No. 37, Dec. 1961, Geneva.
- Ambraseys (1962). "A Note on the Chronology of Willis's List of Earthquakes in Palestine and Syria", Bulletin of the Seismological Society of America, Vol. 52, No. 1, pp. 77-80, January 1962.
- Ambraseys (1971). "Value of Historical Records of Earthquakes", Nature, Vol. 232, No. 5310, pp. 375-379, August 6, 1971.
- Brockelmann, C., "Geschichte der Arabischen Litteratur", Suplem., Leiden, 1938.
- Brockelmann, Carl (1902). "Geschichte der Arabischen Litteratur", Vol. 2, Berlin Verlag von Emil Fehber, 1902.
- Sperenger, A., "As-Suyuti's Work on Earthquakes", Journal, Asiatic Society of Bengal, Vol. 12, Nr. 141, pp. 741-749, Calcutta, 1843.
- Willis, B., "Earthquakes in the Holy Land", Bull. Seism. Soc. Am., 18:77, 1928.
- "The Encyclopedia of Islam", Published by E.J. Brill Ltd., 1934 and 1960, Leiden.

This appendix should be summarized further

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APPENDIX II *

Adana (see Adana or Adhiana)

^{yy}
Apameia (^{ancient}), Apamea, ^{Famiyyah} ~~Armiah~~, EPIPHANIA ^{انطاكية}

Is an city on the shores of ~~Sham~~, and a county of the province of Homs ~~located on the East Side~~ (S)

✓ Ahvaz (31.17 N., 48.43 E.)

^{At Yawad A}
Presently a city in Khusestan province, on the Karun River, in S.W. Iran.

Ahvaz is Khusestan, it is a large province consisting of seven counties between Basra and Fars; each county has a name and Ahvaz is the name for all of them (M).

✓ Akka (32.55 N., 35.04 E.), Acre, Ptolemais, Acco, ^{St. Jean d'Acre} ~~is~~

A city in N.W. Israel 9 miles N.E. of Haifa.

~~A city on the shores of the sea of Sham, part of Jordan (-).~~

✓ Alexandria (31.12 N., 29.54 E.), Al-Iskandariyah ^{الاسكندرية}

Presently a city in Egypt.

Alexander the great built 13 cities all of which were called

Anka al-Bula (Jericho) ^(5, 4, 5, 1)

* The information in this Appendix is taken from the following books:

S1 = Le Strange, Guy "Palestine under the Moslems: A Description of Palestine and Holy Land from A.D. 650 to 1500" 1965, KHAYATS, BEIRUT, LEBANON

S2 = Le Strange, Guy "The Lands of the Eastern Khaliphates" Cambridge University Press, 1930

ay = Yaqut Hamawi "Muzam al Buldan or The Alphabetical (Dictionary) of Geography" written about 1225 A.D. edited by Prof. Wüstenfeld in 6 volumes Leipzig, 1866.

M = ^{Safi-al-Din} ~~Marasid al Ithila~~ "Marasid al Ithila or the match-tower of Informations" epitomized work of Yaqut with additions written about 1300 A.D. edited by T. G. J. Fugynhell, Leiden, 1859.

G = Gazetier

where all the Coordinates are taken from.

Alexandria, afterward the name of some of them changed. Some of them are in the Middle East. The main Alexandria is in Egypt.

Also Alexandria is the name of a village between Haleb and Hama.

Also, there is a village by this name on the Tigris river. ^{(about 15 Farsakh (60 Km) from the city of Wasit)} ~~Between it and the city of Wasit it is 15 Farsakh (60 Km.)~~ Also, it is a village between Mecca and Medinah. (M)

✓ ANAH (34.29N, 41.57E), Ana

A village in Dulaim Province in W. Iraq on the Euphrate^s.

Anah is an island on the Euphrates River and is a famous city between Rahabah and Heit. It has a large fortress and many villages and gardens around the Euphrates. Also, Anah is a city in Jordan in the region of Sham (M).

✓ ANTAKYA (36.10N, 36.10 E), Antioch Antiochia

~~Presently~~ ^A city in Turkey.

It is one of the important cities of Sham, ~~between it and Haleb~~ ^{from Haleb} is a day and a night walking distance. It has walls and a fortress. Its wall has 360 towers, ~~and~~ ^{and} five gates, etc. (M).

ARDEBIL (38.15N, 48.18E), Ardabeil

~~Presently~~ ^A city in Azarbaijan province ~~in~~ NW Iran.

It is one of the famous cities of Azarbaijan, ~~it was a village before Islam (M).~~ ^{which}

ARISH (), Laris

A city which marks the beginning of ~~the region~~ of Egypt on the directi^{on}.

~~the city of Sham - it~~ ^{of Sham} It is located on the shores of the Sea of Rum ~~and is in the~~ ^{on the border} middle of a sandy desert. It was destroyed by the Franks, (M).

✓ ARMENIA ()

~~Presently~~ ^A region in Turkey and also Armeniya S.S.R.

It is the name of a vast region. ~~From the north~~ ^{North} It extends ~~from the~~ to Barzaa' and Bābol-Abyāb (a city on the Caspian Sea), from the South to the cities of Rum and the mountain of Qabaq. There are two Armenias, the small one and the large one. The small one consists of Tiphlis and its surrounding; and the large one consists

of Khalut and its surrounding. *According to some people Armenia*
~~Some one has said that it is the~~
 name of four regions. The first one contains Baillaqhan, Zableh, Shervan and their surroundings; the second one contains Jorzan or Jerdan, Soade-bil, Babe-Firouz-va-Qobad, and Alazz; the third is Basfarjan, Eabil, Seraje-Tair, Baqravand, and Al-Kashavi; and the fourth contains Shamshat, Qabqla, Erjish, and Bajonais.(M)

ARQA (), Arcas or Archas, *Arkah, Arkah, Arklus, Arcus, ٤٥*

A town 24 Kms. east of Tarabulus on the of mountain. Approximately a mile from the Sea. One of its fortresses is on the mountain.

A
 It is also reported that Erqa is part of Awassims located between Rafinah and Tarabulus. ()

✓ ARRAJAN ()

Its ruin is about 16 Km East of present city of Behbahan, SW Iran. In Fars province in Iran.

It is one of the large populated cities of the Fars province, it is also called Arghan (M).

✓ AWASSIM ()

It is the plural of Asem. It refers to the fortresses and the areas around them between Haleb and Antakya. Most of these fortresses are in the mountains. Masisah and Tartus are among them, but Haleb is not included (M).

✓ AZERBAIJAN

Containing a Province

Region in NW Iran and ^d republic of U.S.S.R. with the Same name.

✓ AYRAH (32.37N, 36.32E)

Syria, (possible location)

Ayr is a mountain in Hejaz. Also a location near Mecca.

✓ BAALABAK(34N, 36.11E), Baalbek, Ancient Heliopolis

A city 35 miles N by NW of Damascus, suffered heavily in an earthquake in 1759.

It is a city with a three days traveling distance from Damascus. There are many wonderful buildings, palaces, and large monuments (in this city) ~~which are~~ supported on stone columns, etc.(M).

all

✓ BADR (23.43N, 38.50E)

A village in N central Hejaz, Saudi Arabia, 20 miles, SW of Medinah.

It is a famous place between Mecca and Medinah at the end of the desert of Al-Safra. (M).

BAGHDAD (33.20N, 44.25E)

Capital of Iraq on the Tigris River. Founded in 762 A.D.

BALLES (), Balis, Barhalissus

A town in Sham between Haleb and Raqqa on the West shore of the Euphrates River (M). *a short distance from*

BALKH (36.46 N, 66.50E)

Presently called Mazirabad, in Mazar-i-Sharif province. N. Afghanistan.

It ~~has been~~ ^{was} a well known and important city in ^{the old} Khurasan Province ~~which was destroyed~~ by Mongols. *prior to its destruction*

✓ BANIAS (), Balance, Banyas, Belinus, Bulunyas, Caesarea Philippi, Paneas.

~~The name of~~ A village or town ~~near Damascus~~ located ^{on the foot of} under a mountain on the West side of Damascus (M).

✓ BAREIN (), Barin, Montferrand

A town between Haleb and Hama, closer to Hama, also between Homs and the ~~shores~~ ^{Coast} (M).

BASRA (30.30N, 47.50E)

A city in the South of Iraq.

Basra is in two locations, one is the large and famous one in Iraq, the other is in the far-West near Sus (or Shouneh) which is a ruin (M).

(of Northern Africa)

✓ BEYROUT (), Baruth, Berytus, Bairut

A well known city on the shores of Sham, part of the province of Damascus, 18 Kms. from Saïda.

✓ BUSRA (32.29N, 36.29E), Bosra esh-Sham, Basra, Bistra, Bozrah (بصرى)

A town in Syria

~~BUSRA AL-HAMIR (32.29N, 36.29E)~~

Busra or Bosra is ~~in~~ in two places, one is in Sham ^{the Capital of} ~~which~~ ~~the~~ the county of Hawran ~~among Moslems because~~ ~~the prophet Mohammad used to come there for trade~~, the other ~~and~~ is ~~one of~~ among the villages of Baghdad near Okbara etc. (6).

✓ BYBLOS (34.08N, 35.38E), Byblus or Jubeil

A town in Lebanon. See Jobayl

✓ CAIRO (30.03N, 31.15E)

Capital of Egypt.

It is a city beside Fustat, ^{with} ~~there is~~ a wall around both of ~~them~~. ~~Today~~ Today ~~is~~ is the capital, army camp, and the biggest city of Egypt (M).

✓ CTESIPHANE (33.06N, 44.36E)

Ancient site in Iraq 20 miles SE of Baghdad, on the left bank of the Tigris River. Capital of Sassanid ^{dynasty} ~~226 A.D.~~ ~~The famous Sassanid palace "Eivane-Kasra" was in this city, its~~ ruins can be seen today.

✓ CYPRUS

An island in the Sea of Rum, ^{which} ~~the perimeter of it is 16 days~~ ~~traveling, and at the present it is in the hands of the Franks~~ (Europeans) (M).

✓ DAMASCUS (33.50N, 36.18E) Dimishk (دمشق)

Capital of Syria.

✓ DARUM (), Darān, Darana, Dairan. (دارم)

A fortress ^{lieyand} ~~at~~ ^{in the direction of} ~~near~~ ^{near} Hazah ~~to~~ Egypt about a few kilometers from the shores. (M).

Darre-Bekr

It is called the city, with large areas related to Bukr Ibn-Vail its limits

DIARE-MODHAR ()

which
On the Eastern side of the Euphrates River ~~and~~ contains Harran, Raqqa, Shamshat, Sarsuj, Tele-Mauzoun, etc. (M).

DJMA ()

EILAT (29.33N, 34.57E), Aila, Elyn, Elath, Elth, Ailah or Wailah

A city in ^{Southern} Israel on the shores of the Red Sea.

located on the

border between Jewish Town It is a city on the shore of the Red Sea in Sham. It is ~~at~~ *located on the* ~~between~~ *between* Mejaz and ~~Sham~~ *Sham*. ~~This city belongs to~~ *at* ~~the~~ *at* Eilat is also a location in Sazvi, and ~~a~~ *a* mountain between Mecca and Medinah. (M).

The name of

ERBIL ()

A city and region in N. Iraq.

A strong fortress and large city on an earthen hill in the vast region between the two Eabs. ~~Counted as~~ *at is* part of the province of Mosul.

~~Also~~ *Also*, it is the name of the city of Saida on the ~~Sea~~ *Sham* shores. (M).

ERGENE ()

In Turkey.

~~This is different from Arrajan described before.~~ It seems to be a region or a river in the south of Turkey between Armenia and Sham.

HALEB (36.14N, 37.05E), Aleppo, Calap, Calyptus, Halab

A city in Syria.

It is a famous city in Sham. (M)

Halwan

- 1 - ~~Halwan~~ (35.57N, 56.13E), in Iran
- 2 - ~~Halwan~~ (29.51N, 31.20E), in Egypt (Halwan)
- 3 - ~~Halwan~~ (37.35N, 38.58E), in Turkey (Halwan)

Halwan is in a few locations. Halwan of Iraq is at the end of the area of Savad near the region of Jabal. It is the closest city of Iraq to the ~~area~~ *region* of Jabal. (It seems to be at the present location of Sare-Pole-Zohab between the towns of Qasre-Shirin and Kurand 36 kms. from Qasre-Shirin in the W. of Iran. R.). Halwan

56
Gram
two farsakhs (12 Km)

is also a village in Egypt that is overlooking the Nile River, ~~and the distance between this village and Fustat (Cairo) is 12 farsakhs (12 miles) in the direction of Sa'id.~~ Halwan is also a town in the ~~Province~~ of Juhistan in the Neyshapur region at the end frontiers of Khorasan (M).

✓ HAMA (35.09N, 36.44E), Epiphania, Hamat, Hamath, Hamah 57

A city in Syria.
It is a large city surrounded by strong walls on the Assi River. ~~Between Hama and Hama~~ is one day and ~~between Hama and Shayzar~~ half day traveling distance (M). Gram

HAMADAN (34.47N, 48.21E)

A city in W Iran; ~~175 miles W by SW of Tehran.~~

Harran

1- HARRAN (36.51N, 39.01E), Qarram, Carrum 58

A village in Ufra province in S. Turkey, Ancient Carrhae, 24 Miles SSE of Ufra.

2- HARRAN (32.53N, 36.22E).

A village in Syria.

Harran is an old city from the region of Modhar, ~~the traveling distance between this city and Ruha is one day, between it and Raqqa is two days.~~ Also, Harran is one of the villages of Haleb, and a village around Damascus. (M)

days from

The name of

Diane - (one day)

the name of

✓ HAWRAN (), Hauran, Auranitis

A vast county in ~~part of~~ the region of Damascus, ~~in~~ the direction of Mecca. It has many villages and fields; one of its villages is Busra which is agriculturally very wealthy (M).

✓ HEIRAT ()

1. A town in the area of Jabale-Hizail, ~~and also in Jabale-Seta'~~ between Mecca and Yeman.

A location

~~Example~~ A town three miles from Kufah toward Hajaf.

~~The Heirat of Al Sadair and Khararnugh is~~ A village located between the cities of Kufah and Basra.

✓ HERAT ()

✓ HOMS (34.44n, 36.43E), Camolla, Chamelle, Emasu, Emissa, Hims

A city in Syria.

It is a famous city ~~with walls~~ ^{walled} midway between Damascus and Haleb (M).

✓ HUNEIN (), Chastel-Neuf, Humin, Hunain ^{is}

A city in the mountains of Amaleh which oversees the region of Egypt. ?

✓ HUSN-EL-AKRAD (34.46N, 36.18E), Chateau des Kurdes, Krak, des Chet ^{valiers}

A fortress in Syria

It is a large fortress ~~on the mountain opposite Homs~~ ^{in Crac} between Baalabuk and Homs (M).

✓ IRAQ (Mesopotamia)

The famous Iraq is a region between the city of Mosul and Abadan lengthwise and between Ozaib of Qaderieh to Halwan widthwise (M).

✓ JANZAH ()

It is the name of the largest city in Arran commonly called Kanjuh. It is ~~between~~ ^{located} between Sherwan and Azarbeijan, 16 Farsakhs (96 Kms.) from Berda (M).

✓ JAYROUN (), Jairun

A rectangular market in Iamascus supported on columns and covered with a roof. The view of the city can be seen from this market. (M) ~~The gate of Jayroun in Damascus seems to be near this zone~~

✓ JAZIREH ()

The region of Mesopotamia between the Tigris and Euphrates Rivers in NE Syria and NW Iraq. Also, a province in NE Syria.

Jazireh Ighoor is between the Tigris and Euphrates near Sham. It contains the regions of Diare-Modhar, and Diare-Bakr. Therefore, it is called Jazireh (island). In this region there are important cities such as Harran, Ruhha (Ufra), Raqqa, Resulayn, Nusaybin, Sinjar, Zhabour, Mardin, Amed, Miafareghin, and Mosul. (M)

JEBAL (), Plural of Jabal (i.e. Mountain)

The name given to the present important cities of Iraq al-Ajam (or Persian Iraq).

→ It is the area between Isfahan, ~~and~~ Zanjan, Qazvin, Hamadan, Dinavar, ~~Qaramisin~~, and Rey. In these regions many large cities and countries are located. Also, Jabal is a county in Homs; Jābol is a small town on the Eastern side of the Tigris River between Wasit and Noḥ manieh. (M)

✓ JEBHAH () Gibellum

A well known fortress on the shores of Sham, part of Latakia near Haleb.

JERUSALEM (31.47N, 35.13E), Hierosolyma, Beit-al-Mozhadas, Al-Ghedi

A famous city between Israel and Jordan. In Arabic called Beit-al-Moghadas.

✓ JOBAYL (34.08N, 35.38 E), Byblos, Gibel, Gibelet, Juhail, Gehal

A well known town on the ~~sea shores of Sham~~ 48 Hms. east of Beyrout.

→ Also, a village near Homs and a part of it. (M)

✓ KAFRE-TAB (), Capharca, Capharda

A city between Ma'arrat and Haleb.

✓ KAIROWAN ()

4 Kaman
KARAK

1- KARAK (31.11N, 35.42E), Crac, Crak de Nesh, Petra Deserta

A town in Jordan, also a water course ~~and a water course~~
and a water course

2- KARAK (32.41N, 36.21E), ~~Crac de Nesh~~

A location in Syria
Karak is a strong new fortress in Sham ~~area~~ around Bolqa and its mountains. ~~According to reports it is between Eilat on the Red Sea and Jerusalem and still in the area~~
an a high mountain (M).

KHALAT () Akhalat, Akhat, Akhalat

A well known city and a part of middle Armenia.

✓ KHAYBAR (25.48N, 39.12E), Khaybar

A town in Jabale-Shammur, a province in N. Nejd, Saudi Arabia, 80 miles N by NW of Madinah.

It is a famous place, where the prophet Mohammad fought the Jews two Manzels (Karavan stops) from Madinah in the direction of Sham (M).

✓ KHURASAN (), Khorasan

NE province of Iran.

It is a vast region, *its western frontier with the Province of Iraq-al-Ajam starts at the villages of Jovain and Beyhagh. The frontier reaches to India, Takharestan, Qaznah, and Sajistan. Its important cities are Heyshapur, Herat, Kurv, Balkh, Taliqan, Nesa, Abivard, and Sarakhs.*

its Eastern frontier

✓ KUFAH (32.02N, 44.25E), Kufa

A town 90 miles S. of Baghdad in Iraq on the Kindiya River founded in 638 A.D.

✓ KURA ()

A plateau in Arabia, N. of Madinah.

Wadi-al-Kura is a ~~valley~~ *region* between Sham and Madinah, i.e., between Tayma and Khaybar. There are many villages in this ~~wadi~~ *region*, where The name Wadi-al-Kura ~~is used for~~ *refers to* all of them (M).

✓ LATAKIA (35.30N, 35.46E), Laziqiyah, Laodicea, Lichia, Lachile

A province and city W. of Syria.

Fellah, hart It is a city on the ~~shore of the sea of Sham~~ *sea shore 36 kms west of*. It is among ~~the cities of the province of Homs. It is located at the west of Jableh. There is a 36 km. distance between them.~~ At present it is part of the county of Haleb. It is an old Roman city and has many important buildings.(M).

✓ MA'ARRA (36.02N, 36.50E)

1- A village SW of Haleb, Syria.

2- MA'ARRA (33.41N, 36.23E)

A small village in Syria.

Ma'arrat al-Nu'man

3 - MA'ARRAT AL-NU'MAN (35.40N, 36.40E) in Syria

There are a few places called Ma'arra; one is Ma'arra-al-Mayra'in which is a small town and a county about 30 km. from Haleb, another one is the Ma'arrat-al-Nu'man. Ma'arra alone is ~~near Haleb~~ it is a large town between Haleb and Hama ~~and is~~ which has a vast area (M).

near Nablus

✓ MADAIN (34.55N, 45.38E), Madain, Maidan

An ancient location in Iraq *near Ctesiphone*

The plural Medinah (i.e., city) is the name of a few cities close together. Among them are the cities of Ctesiphane, Rumieh, Slucia, etc. It has been reported that they were seven cities close together whose sites and names exist now. Madain at present is a small city on the West side of the Tigris on the Sheer River (M). (see description of Ctesiphone).

also

✓ MADIAN ()

✓ MAGHRIB ()

✓ MARDIN ()

A well known fortress on the of the mountain of Jazirah overlooking Danaiser, Dara, and Nusaybein with a large region under it (M).

✓ MASISAH (), Misis, Mamistra, Missis, Kopsuestia

A city on the Jeyhan River in the region of Sham, between Antakya and the ~~Veins~~ of Rum. Also, it is the name of a village in the Damascus province near Beit-Lehia. (M)

region

✓ MECCA (21.25N, 39.49E)

The holy city of Islam in Saudi-Arabia, the shrine of Kaaba is in the center of this city.

✓ MEDINAH (24.35N, 39.53E), Medina

A City in

N. Central Hejaz, Saudi Arabia.

It has walls around it and the mosque of the prophet Mohamad and his tomb is at its center (M).

is a walled city where

unnassim al-Nasir

MOSUL (36.21N, 43.06E)

A city in N. Iraq.

~~It is a famous large city between Tigris and Euphrates rivers.~~

✓ NABLUS (32.13N, 35.16E), Neapolis, Shechem, Nablus

A town in Jordan in the center of Samaria.

It is a well known city in Palestine, between the two mountains of Jubalein. ~~The distance between it and Jerusalem is 60 kms. from~~ ~~It has a big surrounding country and region, all of them are~~ ~~in the mountains of Ghods. The Jews have a deep faith to this on these~~ ~~mountains and call it Nazareth. It is the city of the Samaritans~~ ~~a group of Jews. The Samaritans have a large temple in Nablus~~ and believe that their temple is holy and not the Jerusalem temple (M)

many dependants which

✓ NEYSHAPORE (36.13N, 58.49E), Nishapur

A town in Khorasan province in Iran.

It is a very large city 180 kms. from the city of Marve-al-Shahjan (M).

✓ NUSAYBIN (), Nisibe, Nisibis, Nisibin

A wealthy city in the region of Jazirah on the road between Mosul and Sham. It is about 42 kms. from Sinjar (M).

OLMAN (), Amman, Rahbath, Amman, Philadelphia
UK

✓ PALESTINE, Philistine, ^(Can) Filastin

It is a ^{province} ~~region~~ at the end of the ~~region~~ of Sham near the ~~region~~ of Egypt, ~~and~~ Its capital is Beit-Al-Moghudas (Jerusalem). Its well known cities are Asqalan, Ramllah, Qazza, Arsouf, Qeisar-iah, Nablus, Arihbb, Amman, Yafa, and Beite-Jebreim. It is ~~the~~ a ~~first~~ province of Sham; its beginning on the west is Safah, ~~and~~ its end is Lajjoun in the Ghocr region. Its width from Bolzha up to Arija is ~~a travel~~ of three days (M).

travelling distance

✓ QAZVIN (36.16N, 50.00E)

A city and region in N. Central Iran.

Gom

✓ RAHBAH ()

A square or an open space between buildings. It is also the name of some districts or villages in numerous cities in Sham, Iraq, and Arabia. (M) See also *Rahbah*.

RAMLLAH

1- ~~RAMLLAH~~ (31.56N, 34.52E), Ramallah

A town in W. Israel, 12 miles SE of Tel Aviv, also, a district.

2- ~~RAMLLAH~~ (36.17N, 38.13E)

Attown in Syria.

which It is the singular of Raml. It is now a city in Palestine ~~and~~ has six mosques. It is 12 miles from Jerusalem and is a part of that county ().

✓ ~~RAQQA~~ (35.56N, 39.01E)

A town in Syria

? RASSAS ()

✓ ROHBAH ()

A location near Kufah, also, a city in Wadi-al-Kura between Medinah and Sham (M).

✓ ROKN-AL-YAMANI ()

It is one of the pillars or corners of the shrine of Kaaba in Mecca which is in the direction of Yeman. Some people have said that a man from Yeman has built this corner. The other corners are Rokn-al-Basri, Rokn-al-Iraqi, and Rokn-al-Shami each leading in a different direction. The holy black rock is inside the Rokn-al-Basri.

✓ RUHA (), Ruhha (see Ufru), Edessa, Urfa

(67)

✓ RUM (37.50N, 32.25E)

A sultanate of Turkey, in Konya province in SW Central Turkey, 145 Miles of Ankara.

It is a vast region containing many cities. In the east and north it is surrounded by Turkey, Russia, and the Caspian Sea. In the South is Sham and Iskandariah. In the West the sea and Ondolos-Raqqa and all Sham have been a part of it during the Empire period when Antakayah had been its capital. (M)

✓ SAAD-AL (31.28N, 34.32E)

A town in Israel in the SE of Ghaza.

There are other towns with this name in Yeman, Arabia and Egypt.

✓ SABTE ()

✓ SAFITHA (), Safirta, Safet

Chastel - Blanche
Cairo

Cairo

✓ SAFRA (24.04N, 38.55E)

SW of Medinah in Saudi Arabia.

✓ SAFRA (26.55N, 42.12E), Arabia

A wadi in the region of Medinah on the road of Haj.

There is a one Karavan stop distance between it and Badr. Its water is from the springs and goes to Yanbu. (M).

✓ SA'ID ()

Upper Egypt Region

It is a vast region in Egypt in which there are many big cities. Aswan marks the beginning of this region in the South. In the North it ends at Behnesa near Cairo. According to some books, Sa'id includes 757 villages South of Cairo. The Nile River passes through them. (M)

these villages.

✓ SAILA (), Sidon, called Irlil

A city on the sea shores of ~~Sham~~, part of the ~~province of~~ Damascus, 36 Km. east of Sur. (M).

Flavio

✓ SALAMIAH (), Salamiyyah, Salamaniyyah (Salamunias)

A little town in the region of Burriah. It is a part of the county of Hama; ~~between it and Hama there is a~~ two days traveling distance ~~with~~

from the city of Hamma

✓ SAVAH (35.00N, 50.22E)

N. Central

A town 180 miles WSW of Teheran, Iran, on the river Ghara-Chai ~~in the Ghara-Chai~~

✓ SAWAHEL (), Sea Shores

It appears to mean the Mediterranean Shores around Sham and Palestine.

✓ SHAM (), Al-Sham, Esh-Sham

The region presently subdivided into Syria, Lebanon, Jordan, Palestine, and Israel.

Its name originally was Suri or Syria. Its boundaries are from the Euphrates River to Al-Arish lengthwise and from the mountain of Tay to the Sea of Rum widthwise. It includes the important cities, such as Manlinj, Haleb, Hama, Homs, Damascus, and Jerusalem. On its shores the cities are Akka, Sur, and Asghalan. It has five provinces or Jonds as follows: the province of Ghansarein, Homs, Damascus, Jordan, and Palestine. Awassim is also part of Sham. It is the name of the region on the boundary with Rum, such as Masisah, Tartus, Adnah, Antakiya, etc. (M).

✓ SHALISHAT (37.30N, 38.32E)

This city is probably the same as Samsat (ancient Samosate) vil. Malatya province in S. Turkey on the Euphrates 28 miles NW of Ufra.

It is a city in Rum on the Euphrates in a part of the county of Khartabert. It is different from the Somisat which is a part of Sham. Khartabert is a fortress known as Fortress Ziad in the northern part of the Diare-Bakr region. It is one of the cities of Rum. Between it and Malatya and the Euphrates River is two days travel (M).

✓ SHAWHAK (), Krak de Montreal

A strong fortress in the ^{an} ~~old~~ regions of Sham, between Omman and Eilat, near Kurak. *border*

✓ SHAYZAR (), Caesarea Magna, Larissa, Sisara, Shaizal

an A fortress ~~which is~~ the center of a county in Sham near ~~Maarra~~ Maarra, ~~one day's~~ one day's distance from Hama. The river of Orond flows in its center. ~~There is a bridge in the center of the city.~~ It is an old location, *an* *travelling*

Arrete (ar Ar)

SINJAR ()

A well known city in the region of Jazirah surrounded by mountains with a three days traveling distance ~~between it and~~ ^{from} Mosul (M).

✓ SOVAYDA ()

Samaria

~~A village among~~ ^{one of} the villages of Hawran in the Damascus province.

~~Also, A well known city in the Modhar region near Harran located between Harran and the cities of Rum,~~ ^{close to Harran.}

✓ SUR (33.16N, 35.12E). Tyre

A city 45 miles SSW of Beirut in Lebanon.

It is a well known and large Islamic city on the sea shores ^{Sham} of Sham. It is surrounded by the sea except at four points where the four gates of the town are located. It is 36 Km. east of Akka (M).

SUS

TABRIN ()

✓ TABRIZ ()

~~Tiberias~~

✓ TABUZ (28.23N, 36.36E)

A village N. of Hejaz in Saudi Arabia in the hinterland of Madian 350 miles NW of Medinah.

It is a village between Wadi-al-Kura and Sham which has springs of water and vegetation. It has a ruined fortress (M).

✓ TARAKULUS-EL-SHAM (34.26N, 35.51E), Tripoli,

Atrakulus

A city in N. Lebanon province, 40 miles NNE of Beirut.

It is a well known city in Sham on the sea shore. It has a city-wall made of stone with a strong foundation (between Latikaya and Akka).

✓ TAWWAHIN ()

The Flour - Mills

A location near Ramallah in Palestine ~~in Sham~~ (M).

TAYMA (27.37N, 38.30E) Tayma

A town in N. of Hejaz in Saudi Arabia.
It is a small town in Sham between Sham and Jura on the way to Mecca from Damascus ().

Tale - Harb

located

✓ TELE-JAYROUN ()

in Damascus (see Jayroun)

Probably a mound or little hill in Jayroun, ~~where Jayroun is a rectangular covered market with a roof and columns. Near it is a town which uses this market. It is in Damascus. The gate of Jayroun seems to be in Damascus.~~

✓ TIKRIT (34.26N, 43.12E)

A village in the Baghdad province in N. Central Iraq on the Tigris River, 100 miles NNW of Baghdad.

It is a well known city between Baghdad and Mosul on the West of the Tigris. It has a beautiful fortress on ~~one side of its~~ toward the Tigris. It is ~~as far as~~ 30 Farsakhs from Baghdad (M).
Side about (190 Km.)

UFRA (37.08N, 38.45E), Ruha

Ancient Odessa in S. Turkey.

36 Kms

It is a city in the region of Jazireh above Harran and ~~is~~ Its name in Rumi is Odessa (M).

WASIT

language

1- WASIT (32.12N, 46.20E)

An ancient site in Iraq founded in 703 A.D.

2- WASIT (33.08N, 35.44E), in Syria

Wasit is in a few places; one is the Wasit-el-Hajaj which is half way between Basra and Kufeh, 300 Km. from each. Other Wasit sites are Wasit of Najd, Wasit of Hejaz, Wasit of Jazireh, Wasit of Yamameh, and Wasit of Iraq. Wasit is also a village around Haleb in the region known as Al-Ghorb which has a village called Kufe, in Raqqa on the West of the Euphrates, in Dojeil 18 Km. from Baghdad, and between Al-Sufra and Ozaibeh.

YANBU

Yanbu - al-Baker n town

also

1- YANBU-AL-BAKER (24.07N, 38.04E), in Saudi Arabia

Yanbu - al-Salam n town

2- YANBU-AL-SALAM (24.12N, 37.22E), on the Gulf of Arabia, also

3- YANBU-AL-SALAM () an Oasis in Arabia

It is an important village and fortress ~~on~~ to the right ~~side~~ of Razvi ~~and it is~~ one night's distance from Medinah ~~to~~ the sea on the way to Razvi. It has good water (M).

travelling

toward

PART 2

SOME HISTORICAL EARTHQUAKES IN IRAN

by

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I. SOME HISTORICAL EARTHQUAKES IN THE CITY OF KASHAN

982 A.H. (23 April 1574-11 April 1575). A very strong earthquake occurred in the region of Kashan. The epicenter of this earthquake seems to have been near the village of Fin since it was totally destroyed in this earthquake. Also, the buildings in the neighbourhood of that village were destroyed. According to the history book of Rawdat-al-Safa (vol. 8, page 147) this earthquake destroyed about 3000 homes and buildings in that area and killed more than 1200 of the population. This earthquake occurred during the last years of the rule of King Tahmaseb the First (Safavid dynasty).

1192 A.H. (30 January 1778-18 January 1779). A severe earthquake occurred in the city of Kashan and the area around it. It destroyed almost all the important buildings of Kashan including the city wall and its towers. The description of this earthquake is given by Abol-Hassan Mostowfi Ghafāri in his book entitled History of Golshanē Morād. He claims that in the city of Kashan alone more than 8000 people were killed. The extent of damage and the misery of the people are recorded by famous poets of that time, such as Hātefe Isfāhāni, Sabāhie Bidgoli and Āzare Shāmloo in their respective poetry books. (The writer of this article has collected most of these poems.) This earthquake occurred during the last years of the reign of Karim Khāne Zand. The governor of Kashan at that time was Abdol Razagh-Khāne Kāshi. The people fled from the city. Afterward financial and technical help was sent from Shiraz by Karim Khāne Zand. Under the direction of the governor, the city wall and towers were rebuild, and then the bazaar and those public buildings and

mosques which were salvageable were repaired. These repairs continued for about ten years under the management of the aforementioned governor.

Ref.; The above description and that of the earthquake of 982 A.H. are taken from a recent book written by Hassan Narāghi entitled, Āthāre Tarikhie Shahrestan Kashan and Natanz, book number 63, Anjomane Athare Melli, Teheran.

In 1260 A.H. (1844 A.D.) on Saturday afternoon between the 20th and 30th of the month of Rabi' al-Ākhir (9-19 May 1844 A.D.), a strong earthquake occurred in the region of Kashan. Its epicenter seems to have been in the mountain regions of the county of Qamsar. It killed more than 1500 villagers and destroyed many large and small buildings. The description of this earthquake is given again by a poet named Mirzā Ahmad Adibe-Sheibāni. He said that the counties of Qahrood, Qamsar, Kāmo, and Koushian were totally destroyed. In the village of Chookān, which belongs to Koushian county, of 103 people of the village, only three survived. At the time of this earthquake a heavy rain was coming, so all of the villagers were inside their homes. Sheibāni said that even two weeks after the earthquake, the earth, the plains and the mountain were still shaking, and all the buildings of the city of Qamsar were damaged or destroyed such that no house had a ceiling and no garden had walls. He has described the occurrence of landslides and slides of some parts of mountains.

Ref.; the poetry and the above descriptions are in the book written by Hassan Narāghi entitled, Tārikhe Ejtemaei Kashan (Social History of Kashan), Publication No. 42, Institute of Social Studies, University of Teheran, 1345 A.H.S.

II. SOME EARTHQUAKES IN THE PROVINCE OF KHORASSAN

500-808 A.H. (1106-1406 A.D.). According to a poem by Azizi which is reported in the book of Tazkirat-al-Shoara by Dolatshahe Samarqandi (written between 892 A.H. to 896 A.H., recently published by Baraei Bookstore, Teheran, p. 207), three earthquakes have occurred in the city of Nishapur. The first one was between the years of 500 A.H. and 510 A.H. (1106-1117 A.D.) which leveled the city as smooth as the plains; the second one was in the year 630 A.H. (18 October 1232-6 October 1233), and the third one was in the year 808 A.H. (20 June 1405-17 June 1406). In the poems the descriptions of these earthquakes are not given.

737 A.H. (20 October 1336). According to Binesh (Editor's preface to the book al-Marasid by T. Binesh, Tous Publisher, Meshed, 1960, p.73), a severe earthquake partially destroyed the region of Khavaf¹ on Monday morning the 13th of Rabi, al-Aula 737 A.H.. He has quoted Fassihie Khavafi (in Mojmale Fassihi, photographed copy in Cambridge University Library, events of the year 737, pp.408-9) as follows: "In this year in the region of Khavaf there was an earthquake which is known as the Jeyzad earthquake. According to the preacher Abalfadl-Zauzani about 30,000 people from the village of Zauzan¹ up to the village of Jeyzad perished. Due to this earthquake a cholera epidemic appeared in Zaveh which killed about 11,000 people in the region between Sanjan of Zaveh (part of Khavaf)

¹ Zauzan today is part of Khavaf and part of the county of Torbate Heidariah; in the past it was part of Nishapur. According to Mustawfi, Khavaf is a district, and villages of Sanjan and Zauzan are part of it. According to Marasid, Zauzan is a vast region in Nishapur containing about 120 villages. According to Hafeze Abero, "Khavaf is a well known region in Khurassan south of Zaveh and Nishapur. Zauvan and Sanjan are two of its' villages. The former is its capital.

to Dough-Ābād." Majde Khavāfi (in the Manuscript of the book of Rawdhahe-Khold, transcribed in the year 834 A.H. by Fadl-al-Din Morteza Mousavi, p. 159, Library of Professor Faroukh) has described this event as follows: "An earthquake which nobody has seen or heard anything similar to it in 1000 years; it occurred in Khavāf especially in the city of Jerd (Jeyzad) around dusk. The ground shook so violently that it seemed the earth and heaven have been cut loose from their center (He then has a few poems about this earthquake). Within a few moments about 20,000 people perished and were buried under the debris." One of the close associates of King Qiās-al-Din Firouz said that when the earthquake occurred the king was running back and forth between the palace and the courtyard crying that the resurrection day had arrived; then the whole palace was destroyed and the king killed. (Four additional lines of poetry about this event are also given.)

956 A.H. (30 January 1549-19 January 1550 A.D.). A severe earthquake occurred in the region of Qāyen, where five villages were destroyed and about 3000 people were killed. One day before the occurrence of the earthquake, the judge of that region named Maulānā Bāqi, who was also an astronomer and astrologer living in one of these five villages, informed the people of his village that on the coming night, according to his calculations, there would be a severe earthquake. He said that it would be safer not to stay indoors and to spend the night outside the village. The people of the village did not listen to him, so he went outside with his own family and followers, and they stayed on the plains until midnight. That night was very cold. Under the pressure of his wives and children he returned to the village, and as they came indoors the earthquake occurred, and he with his children and followers died under the debris (Ref.:

Tārikhe Ālam-Āraie Abbāssi, Vol. 1, p. 117).

1028 A.H. (19 December 1618-7 December 1619 A.D.). In some regions of Zaveh and regions of Khorassan earthquakes occurred. In a populous village names Douqabad there was such a severe earthquake that in no time since has anything like that happened. A reliable witness said that the houses came down in such a manner on top of each other that the entire village looked like a mound of dirt, and there was no apparent sign of any building or even a wall. Most of the people of that village who had gone to the field to gather the wheat harvest survived, but nevertheless, approximately 700 to 800 people of that village died in this earthquake. In one house a marriage ceremony was in progress, and 70 of the guest ladies died; however, the bride survived under the space made by the falling timbers and door frame.

(Ref.: Tarikhe Aalam-Araie Abbassi written by Eskandar Beik Torkaman, Vol. 2, p. 947, published by the bookstore Ta'yid in Isfahan. The book is the chronicle of historical events during the reign of King Abbas the Great of the Safavid dynasty.)

1311 A.H. (17 November 1893). In the beginning of the night of the 8th of Jumada al-Aula (Friday, 17 November 1893) a very strong earthquake occurred in the city of Qouchan in the N.W. of Iran. It killed thousands of people and destroyed many houses and public buildings such as mosques, bathing houses and schools.

(Ref.: A poetry book entitled, Tarikhe Zelzelehe Qouchan by Hajji Mohammad Tagri Fani, Library of Astanehe Qadse Qodse Razani, Meshed, Iran.

1312 A.H. (17 January 1895). In the morning hours of the 20th of Rajab (Wednesday, 17 January 1895), another severe earthquake occurred in the city of Qouchan. It was stronger than the earthquake of the previous year (1311 A.H.). In both of these earthquakes in the city of Qouchan alone, about 6000 people were killed (Ref.: Ibid.)

III. SOME HISTORICAL EARTHQUAKES IN THE PROVINCE OF KHUZISTAN

225 A.H. (12 November 839-30 October 840). In the city of Ahwaz there was a severe earthquake which continued for four days, and the mountain close to the city was cracked. This event is reported by Hamzeh Isfahani (p. 121 of his book). Ibn-Athir has recorded this earthquake as part of the events of the next year (226 A.H.). He says, "Five days severe earthquakes continued in Ahwaz, and strong winds were blowing. Most of the people left their homes, and most of the homes were destroyed."

258 A.H. (18 November 871-6 November 872). According to Hamzeh Isfahani (p. 123 of his book), "In the year 258 A.H. in Seymoreh a big shock and underground noise was heard, most of the walls of the city were destroyed, and more than 20,000 people were killed." Ibn-Athir (p. 85, vol. 8) says, "In Seymoreh a big and horrible noise was heard, then, most of the city was destroyed, and the walls fell down, and more than 20,000 of its people died."

444 A.H. (3 May 1052-17 April 1086). Ibn-Athir, in the events of this year, says, "In this year in Khuzistan, Arjān, and Eyzaḡ there were strong earthquakes."

478 A.H. (29 April 1085-17 April 1086). Ibn-Athir, among the events of this year, writes, "In this year strong earthquakes occurred in Khuzistan and Fars, and it was the most severe in Arjān."

1347 A.H. (1928 A.D.). On the night of the 11th of the month of Rabi' Al-Awal (Tuesday, 28 August 1928) until morning, earthquakes occurred eighteen times in the city of Shushtar and the nearby areas. The people left their homes and came to mosques and open spaces. In the morning a more severe earthquake occurred which destroyed and damaged

most of the buildings. The people left the city for the fields and plains. After a few days they came back, group by group. Again on the night of the 16th of that month, September 1, 1928, twice, strong earthquakes occurred which frightened the people. At the end of the month frequent mild earthquakes occurred. People were living in tents around the city, and, therefore, few people were killed.

1348 A.H. (9 June 1929-29 May 1930). There were earthquakes in the regions of Bakhtiari and Masjid-Soleiman. The mountain of Londeh cracked in a few places, and springs started flowing from it. A few people died in the villages of Zarās, Nodka, and so on. Also, in this year many earthquakes occurred in Dezful, but no one was killed.

(Ref.: This section about Khuzistan earthquakes was taken from the book, "Tārikhe Joghrafīaei Khuzistan (Historical Geography of Khuzistan), by Sayed Mohammad Ali Imāme Shushtari, published by Amir Kabir Publishing Co., 1331 A.H.S. Teheran.)

IV. SOME HISTORICAL EARTHQUAKES IN THE CITY OF TABRIZ

244 A.H. (19 April 858-7 April 859). During the reign of Khalif Motavakil, Tabriz was destroyed by an earthquake. The Khalif rebuilt the city (this event has been described by Hamdololāhe-Mostoufi).

434 A.H. (1042 A.D.). On Thursday night, the 17th of the month of Rabi-al-Awal (4 November 1042) after the night prayer, an earthquake occurred which killed about 40,000 people and destroyed half of the city. This event is reported by Nāsser Khosrow in his travel book. He visited Tabriz four years after the earthquake. Mostoufi has quoted the book of Majma' Arbābe-al-Molk, written by Judge Rokn-al-Din Khoei, which has recorded the day of the event as the 14th of Safar of this year (Sunday, 3 October 1042 A.D.). He also reported that the number of people who were killed was more than 40,000. Ibn-Athir said that they counted the dead, and it was close to 50,000 people. Qatrān has a famous poem about this earthquake.

1033 A.H. (25 October 1623-13 October 1624). A strong earthquake occurred in Tabriz. The details of the damage are not clear (no reference is given).

1039 A.H. (21 August 1629-9 August 1630). A destructive earthquake occurred in Tabriz which destroyed many buildings and killed many people. The description of this earthquake is given in a poem by Sayed Najib Mir-ali-Naghi Tabibe Ordoubādi. (The writer of this article has a photocopy of this poem which was obtained from a manuscript in the Teheran University Library. Unfortunately, at the time the name and the number of the manuscript was not recorded.)

1050 A.H. (23 April 1640-11 April 1641). One of the most severe and destructive earthquakes happened in this year in the city of Tabriz.

The details of this earthquake were reported by Ārākīl Tabrizi, the Armenian historian, who was alive at that time. It happened on one of the coldest days of winter when it was snowing, and most of the people were at home. The earth shook very severely, and the city was leveled in a few moments. The palace of Ghazan Shāh, which had been one of the most magnificent historical buildings of Tabriz, was completely destroyed and also the historic Mosque of Ostad va Shāgerd and other famous mosques. Ārākīl writes, "The first day that this earthquake occurred...in the regions outside the city in Khosro Shāh and Oskoo, all villages were destroyed, and a village which was on top of a mountain sunk to the ground, and from the mountains black springs flowed. On the third day another severe shock occurred, and these springs disappeared and new ones appeared." He says that these earthquakes continued for about six months, in such a manner that for two months every day and night a few earthquakes occurred. Then it became less such that only one occurred per day. After six months none occurred.

1059 or 1060 A.H. (15 January 1649-24 December 1650). Nine years after the above event another strong earthquake occurred in Tabriz which caused much damage. A poet named Mir Baghāie Badakhshi has recorded the date of this earthquake in the year 1060 A.H.

1090 A.H. (12 February 1679-1 February 1680). According to the book of Mir-āt-al-Boldan (Mirror of the Cities) written in the last century by E'temād al-Saltaneh, another earthquake seems to have occurred in Tabriz, but he has not given any references or details.

1134 A.H. (22 October 1721-11 October 1722). During the reign of King Soltan Hossein Safavid one of the most destructive earthquakes occurred in Tabriz. Most of the city fell in ruins, and about 80,000 people died.

1194 A.H. (8 January 1780). A destructive earthquake occurred in Tabriz which destroyed the city. It happened about one and one-half hours past sunset on Saturday the first of Muharam. (Some sources have reported that this earthquake occurred at the end of the month of Dhu-al'Hajja, 1193 A.H. (7 January 1780), which is one night before the earthquake of the First of Muharam 1194 A.H. (January 8). The two earthquakes were either the same, or one was the after shock of the other. According to a poem, the second one was more severe than the first. R.) These earthquakes occurred in Tabriz and the region around it. It also killed many people from Marand, Mahāle Tasuj, and Arounaq. This earthquake occurred in the winter. The governor of the city of Tabriz was Najaf Gholi-Khāne, Donbali who lost his son in this earthquake, and he himself was pulled out from under the ruins. He rebuilt the fortress and the city wall afterward.

Ref.: The source for all the above earthquakes of Tabriz except the one of 1039 A.H. is an article by the recent well known Iranian historian, the late Ahmade Kasravi, taken from a book entitled Maghālāte Kasravi (or Kasravi articles) collected by Yahya Zoka', First volume, No. 75, Peyman Publishing Co., 1327 A.H.S.

V SOME HISTORICAL EARTHQUAKES IN THE CITY OF REY (Present Shahre-Ray near Teheran)

312-280 B.C.

During Sulucids period an earthquake destroyed the city of Rey. The Sulucus 1st (called Nicator 312-280 B.C.) rebuilt the city again and called it Europos. From Reference 1: (Rey Bastan Vol. II by Dr. Hossein Karimian, 69, Selseleh Entesharat Anjoman Asare Meli, page 101). The information in this Reference is taken from a book called "History of Ancient Iran", part "Ashkanian" by Diakonov in Russian, translated into Persian by Karim Keshavarz 1344 A.H.S., Tehran. Diakonov information is based on the authority of Strabo.

236 A.H. (15 July 850 - 4 July 851)

An earthquake killed 45,000 people in the city of Rey. (Reference 1: above page 243, a book called "Tabseratol Anam Fi Maarefate Maghalateh Anam" written by Said Morteza Ibn Daai Hassani Razi published in Tehran by Abas Eghbal, 1313 A.H.S.)

241 A.H. (22 May 855 - 10 May 856)

A strong earthquake destroyed houses in Rey and so many people lost their lives that no count could be made; this earthquake continued for forty days. (Reference 1: Kamel by Ibn-Athir, Vol. 5, page 296). There is poetry about this earthquake which rate the number of people perished to 350,000 persons. (Reference 1: poems of Ghavame Razi).

242 A.H. (10 May 856 - 29 April 857)

A strong earthquake shook Qumes (or Kumesh) and its surroundings; Rey, Khurasan, Meyshapur, Tabarestan and Isfahan. Mountains destroyed and land cracked such that people could go into them. Reference 1: (on the authority of Tarikh Yaghoobi, Vol. 3, page 215, line 13, and Tarikh Kholafa of Suyouti, page 354, line 12, printed in the year 1273, and Shazarato Zahab, Vol. 2, page 99, line 19).

249 A.H. (24 February 863 - 12 February 864)

A destructive earthquake shook city of Rey, many houses destroyed, and a large number of people perished. The rest of the people left the town to the country-side. (Reference 1: on the authority of Tabari and Ibn Athir, Vol. 5, page 314, line 11).

346 A.H. (3 February 958)

In beginning of the month of Dhu-al-Hijja a strong earthquake destroyed many buildings of Rey where a large number of people were killed. (Reference 1: on the authority of Ibn Athir "Events of the Year 346" and Shazarato Yal-Zahab quoting Iby-Jawzi describes this earthquake with more details).

524 A.H. (12 February - 13 March 1130)

In the month of Rabi, al-Awal in the cities of Jebal (of which Rey is one), Irak, Musel, and Jazireh, a major earthquake happened which caused much damage. (Reference 1: on the authority of Ibn Athir).

571 A.H. (22 July 1175 - 9 July 1176)

The cities between Irak and Mavara'-Rey (i.e., beyond the Rey probably up to Dameghan and Semann) were shaken by strong earthquakes. Large number of people perished, many buildings were destroyed. There were more damage in Rey and Qazvin. (Reference 1: on the authority of Kamel by Ibn Athir, Vol. 6, page 354, last line).

End of the 8th Century Hijri (14th Century A.D.)

During the reign of Tamerlane, it is probable that a strong earthquake has destroyed city of Rey. (Reference 1: has obtained the description of this event from a book called "Manam Taymur Jahangosha (or I am Tamerlane the Conqueror)" written by Tamerlane (as there is doubts about the authenticity of this book we can not be certain about this earthquake).

Some Historical earthquakes in the province of Fars Southern Iran

Item	Date	Location	Description	Reference
1	3-31Dec.856 (Sha'ban 242 A.H.)	Province of Fars (exact location is not given)	The earthquake was accompanied by horrible noises. In this year there were also earthquakes in the region of <u>Qumes</u> especially in the city of <u>Dameghan</u> killing 48,690 people, also in <u>Khurassan</u> , <u>Syria</u> , and <u>Yeman</u> .	Tabari V. 12, p. 1433
2	30Aug976-18Aug977 or 19Aug977-8Aug978 (366 or 367 A.H.)	The port of <u>Siraf</u> near the present part of <u>Taheri</u> in the <u>Persian Gulf</u> .	The land shook for seven days. Most of the houses and the whole city were destroyed. A portion of the buildings fell into the sea. <u>Siraf</u> prior to the earthquake was the most important harbor on the <u>Persian Gulf</u> with excellent buildings.	LeStrange p. 258
3	11April-9May1008 (Sha'ban 398 A.H.)	<u>Siraf</u>	The earthquake caused an indundation at <u>Siraf</u> (recorded as Shiraz in the manuscript) wrecking many ships at sea. In this year an earthquake also damaged the region of Dinawar killing about 16,000 people and cracking the ground in many places.	^{C76} Ambrassy* (1961) (Suyuti)
4	3May1052-22Apr.1053 (444 A.H.)	City of <u>Arrjan</u> or Arghan (31',40°N, 50',20°E) (about 14km East of the present city of Behuahan on the river Marun. Encycl. of Islam V. 1, p. 659)	The occurrence of earthquakes in <u>Khuzestan</u> , <u>Eyzaj</u> , and <u>Fars</u> . It was strongest in <u>Arrjan</u> which cracked and opened up a large mountain near that city. In this year there were also earthquakes in <u>Khurassan</u> destroying the town of <u>Beyhagh</u> .	" Syuti Mallet(Abulfida)

* The names in the parenthesis refers to the authority as the reference used by the first reference.

5	29April-27May1085 (Muharram 478 A.H.)	<u>Fars in Arrjan</u>	Strong earthquakes occurred in <u>Khuzestan</u> and <u>Fars</u> . It was most severe in <u>Arrjan</u> which destroyed many buildings and killed many people under them. In this year there were also destructive earthquakes in <u>Rum</u> (present <u>Turkey</u>).	Syuti Ibn-Athir V. 10, p. 95
6	4Jan-23Dec.1291 (690 A.H.)	<u>Shiraz</u>	A strong earthquake caused the destruction of Masjid-iNaw (new Mosque)	Samī p. 325
7	20Nov.1588-9Nov.1589 (997 A.H.)	<u>Shiraz</u>	A strong and destructive earthquake destroyed half of the dome and the structure of the shrine of Shahe-Cheragh.	Samī, p. 337 Farrei, p. 154 Fasa'i
8	7May1769-26Apr.1770 (1183 A.H.)	<u>Shiraz</u>	A strong earthquake again caused the destruction of Masjid-i-Naw.	Samī, p. 325
9	1813	<u>Shiraz</u>	A destructive earthquake occurred.	Enciclopedia of Islam. V.4:1, p.377
10	2June1824	<u>Shiraz</u>	? Somesslight motion in <u>Shiraz</u> . Premantory of the great earthquake of 25th of June.	Wilson (Mallet)
11	25June1824 (27 Shawmal 1239) w	<u>Shiraz</u> and <u>Kazerun</u>	A violent shock followed by many slighter ones for six days and nights. The principal damage was done by the first and three others that followed it before 10A.M. A part of <u>Shiraz</u> was almost completely destroyed and swallowed up. <u>Kazerun</u> also suffered severely and some mountains in the neighborhood of <u>Kazerun</u> were leveled. In <u>Shiraz</u> most of the mosques, shrines, important buildings and the adobe city wall destroyed, notably the shrine of Shahe-Cheragh, Ali-ibn-Hamzah, Seid-mir-Ahmad, and the College of Khan. Some strong masonry buildings constructed	Wilson (Mallet) Samī, p.92,340 352, 493 Vassal, p.29 Fasa'i, p.162, 154

during the reign of Karim Khane Zand such as Bazar & Mosque of Vakil were damaged but survived the earthquake. Earthquake intensity seems to have been between VII to IX (MM). Condition of the city and people is described in poetry by Vassal Shirazi.

12	30Dec.1824	<u>Shiraz</u>	Several shocks occurred.	Wilson (Mallet)
13	1825	<u>Shiraz</u>	A shock almost as severe as that of the year before, a number of buildings were reduced to ruins.	Wilson (Mallet)
14	19Apr.1851	<u>Gwadar</u> in <u>Persian Gulf</u>	Three shocks occurred; several houses were destroyed.	Wilson (Oldham)
15	22Apr.1853 (1269 A.H.)	<u>Shiraz</u>	A large portion of <u>Shiraz</u> was destroyed killing about 13,000 people. The main shock occurred early in the morning and was accompanied by a loud noise. It caused extensive ground settlements and cracking on the surface of the ground and on the mountains around the city. There were land and rock slides filling the sky over the city with dust for a few days. Aftershocks occurred for many days. The Dome and some parts of the Shrine of Shahe-Cheragh, Masjif-i-Naw and College of Khan were destroyed. The Bazar and Mosque of Vakil and most other strong masonry buildings, which were built by Karim Khane Zand survived this earthquake also. The intensity of this earthquake in <u>Shiraz</u> seems to have been between VII to IX (MM). Conditions of the city and people is described in poems by Davari and Veghar and in by Wills	Wilson (Perry, Wills) Sami, p.92,325, 326,340 Davari, p.161, 382 Vassal, p.146 Fasa'ei, p.163, 154,155,160
16	21Dec.1862	<u>Shiraz</u>		Wilson (Perry)

17	1-2Jan1863	<u>Shiraz</u>		Wilson (Perry)
18	4Jan1863	"	2 slight shocks	"
19	21Jan1863	"	A very strong shock	"
20	1865	"	5 shocks occurred of which three were violent	"
21	"	<u>Around Bushire Persian Gulf</u>	The villages of Darveh Asuh near Mugam was leveled to the ground; and its remarkable effects were witnessed by Dr. Colnill of the Bushire residency.	Wilson (PGG*)
21	19Apr.1868	<u>Bushire</u>	Several shocks of which two were violent	Wilson (Perry)
22	1March1869	"	A violent shock	"
23	6Sept.1871	"	Several violent shocks	"
24	Aug.1880	^a <u>Bustak Persian Gulf</u>	120 deaths. According to ^{ov} Mauahid in the year 1297 A.H. a strong earthquake occurred in Bastak and the villages of Faramarzan. In the village of Jonah about 35 kms. SW Bastak there were extensive loss of life and property where many buildings and mosques were destroyed. This earthquake occurred during Friday noon prayer. In Jonah alone it killed about 80 people while some were praying.	Wilson (PGG) ^{ov} Mauahid, p.19
25	16-24Oct.1883	<u>Kangun</u> <u>Asalu</u> (very near to the location of old Port of Siraf) <u>Tahiri</u> <u>Bushire</u>	Much damage was done.	Wilson (PGG)
26	March 1884	<u>Persian Gulf</u>	Earthquake was felt.	Wilson (Fuchs)

27	19-20 May 1884	<u>Qishm Il.</u>	<p>132 persons killed; many villages destroyed Shah gave 1400 Tomans (\$200.00) for relief. Annual Revenue remitted. Many inhabitants left the island. The earthquake was felt in the port of <u>Lingeh</u> with no damage. According to Kahahi during May 1885 (corresponding to 1303 A.H.) a major earthquake occurred in the Qishm Island which continued for some period of time. It killed 71 people in Laft, 2 in Soheili, 7 in Tonlan, 30 in Deyrestan, one in Suza, 8 in Bande Haji Ahi, 16 in Ramhoun, 10 in Koushah, 20 from Gornah-dan and Sourghan, 7 from Karanan, 11 from Zeinahi, 18 from Reiposht, 4 from Majian, and 13 from Geyahdan. Total people killed were 218. Almost all houses which were not from wood were destroyed. This earthquake had not much effect of the city of Qishm.</p>	<p>Wilson (Fuchs, PGG) Kahahi, p.129 b b</p>
28	June 1884	<u>Ras-al Khaimah</u> (Persian Gulf)		Wilson (PGG)
29	14-24 Nov. 1887	<u>Bushire</u>		Wilson (PGG)
30	1890	<u>Jahrum</u> <u>Kamarij</u> <u>Khisht</u> <u>Fasa</u>	<p>30 people killed</p> <p>Earthquake felt, not much damage</p>	"
31	End of Feb. 1894	<u>Shiraz</u>	Some injury to life and property	Wilson (PGG) Kahahi, p.129 b b
32	11 Jan. 1897 (at night)	<u>Quishm Is.</u>	<p>The town was leveled to the ground, 1600 people were killed. Only two mosques and three or four other buildings left standing. According to Kahahi on Monday night 14th of the month of Sha'ban 1316 A.H. Corresponding to the year 1898 A.D. (According to computation it correspond to</p>	

26 Dec. 1898 which seems to fall on Wednesday R.) Another major earthquake occurred in the City of Qishm which killed about 750 people there. The people changed all their adobe and masonry houses to the wooden buildings. One year after this the city caught fire and most of the wooden buildings were burned.

32	11 Jan. 1897 (all night)	<u>Larak Island</u> <u>Port of Lingeh</u>	Loss of life No loss of life, earthquake was felt	" "
33	9 June 1902	<u>Qishm Is.</u>	Considerable damage. Shocks also felt at Bandar Abbas, where 10 lives were lost and many houses destroyed. Shocks continued for several days.	Wilson(PGG)
34	25-27 Apr. 1905	<u>Bandar Abbas</u>	The shock was also felt on islands of <u>Qishm</u> and <u>Hangam</u> . Landslides and destruction of buildings in <u>Kuh-i-Giano</u> , and in <u>Isin</u> village.	Wilson (PGG)
35	31 Oct. 1956	<u>Lar-Bastak</u>	A destructive earthquake of Magnitude 6.4 occurred in <u>Lar</u> near <u>Bastak</u> , killing some 225 people and injuring more than 3000 people. According to Mauhid this earthquake cracked only a few houses in Bastak, however, it was so strong in Gawdah area that the three villages Dehtal, Chandozdan, Barde-lari which were close to each other, plus the village of Fatpiah which were far from the others, were totally destroyed. It also damaged other villages such as Tadruyah and Dahnak. In this earthquake about 253 people of G ^w mdah area were killed. It caused about 20 million pials (2.5 million dollars) damage.	Banisadr P. 16 Mauhid p. 19 ov R

36 24 Ap. 1960 Lar A destructive earthquake of magnitude 5.9 demolished the city of Lar. All the buildings were completely ruined and some 1500 persons killed. Banisadr P. 17 Afshar

37 11 June 1961 Lar An earthquake with magnitude 6.9 occurred in Lar, causing some damage to the old city and killing about 60 people. Banisadr P. 17

38 Miscellaneous other historical earthquakes

a- Clarke (p. 13) based on report No. 3 is April 1962 of the seismological status of Shiraz entitled "sur la seismiate de l'Iran", states that "as well as the ^{cite} two major earthquakes of the nineteenth century there is evidence to support the fact that many others occurred in Shiraz during the previous thousand years, notably, in 856, 1505, 1586, 1588, 1621, 1681, 1789, and 1814 A.D." However, except for those underlined and discussed previously, no verification for the occurrence of the others have yet been found by the authors."

b- In a private communication, Professor Sami, the well known recent Historian of Shiraz has indicated that the Island Qishm was destroyed in the year of 762 A.H. (11 Nov. 1360 - 30 Oct. 1361). He also indicated that the Islands of Kish and Hangan were destroyed in the years 1115 A.H. (17 May 1703 - 5 May 1704) and 1301 A.H. (2 Nov. 1883 - 20 Oct. 1884). Correct references for these earthquakes at present is unavailable.

c- The following information was obtained from interviewing some educated people in the earthquake zone. No

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verification has yet been obtained.

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- 1- The city of Khonge had been very large and wealthy up to the year 1300 A.D. (700 A.H.) but afterward it was destroyed by an earthquake.
- 2- The city of Lar had been destroyed 300 years ago (1670). It also had been destroyed a few times earlier than this date. There is evidence of the occurrence of an old earthquake in the region of Evaz, a dependency of the County of Lar, the ruins of the villages of Barzejan, Khoshab and Marbout which are in the Evaz region can still be seen.
- 3- The Township of Gawdah a dependency of Bastak was damaged by an earthquake about 200 years ago (1770 A.D.) and the villages of Bask and Bodlofan were destroyed.
- 4- In Jam and Riz above Siraf there is evidence of early destruction by earthquakes. Around Hermi which is now a small village there are the remains of a large old ruin indicating that in old times it had been a large city.

REFERENCES (incomplete)

1. Banisadr, M. (1971). "The Seismicity of Iran (1900-1969)", D.I.C. Thesis Submitted to the Imperial College of Science and Technology of the University of London, Printed as publication No. 1, Bureau of Standards and Technical Research, Plan Organisation of the Government of Iran, Teheran, March 1971.
2. Clark, John I., "The Iranian City of Shiraz", Department of Geography, University of Durham, Research Paper Series, No. 7, 1963.
3. Davari, "Divan (A collection of Poems) of Davari Shirazi", Printed by Professor Rouhani Vassal, Shiraz, in the Persian language.
4. Fasaai, Haji Mirza Hassan, "Tarikhe Farsnamehe Nasserii", Lithograph print, Published by the Library of Sanaei, Tehran, in Persian.
5. Ibn-Athir, Edited by C.J. Tornberg, "Ibn-el-Athir Chronicon Quad Perfectisimum Inscibitur", Lugd. Bat., E.J. Brill, 1864.
6. Kahabi, Mohammad Ali Sa'id al-Saltanah, "Bandar Abbas va Khalidje Fars", Ibn-Sina Book Co., Tehran, 1963 (1342 A.H.S.) in Persian.
7. Le Strange, Guy, "The Lands of the Eastern Caliphates", Cambridge, University Press, 1930.
8. Mouahid, Jamil, "Bastak va Khalidje Fars", Printed by the author, Teheran, 1349 A.H. (1970 A.D.), in Persian.
9. Sami, Ali (1966), "Shiraz", Printed by the author in 1967 (1346 A.H.S.), Shiraz, in Persian.
10. Tahari, Edited by M.J. Le Goeje, "Annales Quos Scripsit Abu Djafar Mohammed Ibn Djarir At-Tahari", Lugd. Bat., E.J. Brill, 1883-1884.
11. Vassal, Rouhani, "Golshane Vassal", a Collection of Poems by the Family of Vassals, Printed by the Author, Shiraz, in Persian.
12. Wilson, A.T. (1930), "Earthquakes in Persia", Bult. School Oriental Stud., 6, London.
13. "The Encyclopedia of Islam", Published by E.J. Brill Ltd., 1934 and 1960, Leiden.



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